NORTHEAST MARKETING ISSUE
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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 5 | Accepted as Controlled Circulation Publication at Minneapolis, Minn. | AUGUST 4, 1958 | Subscription Rates: $5 for 1 year, $9 for 2 years | No. 31

## Congressional Bill Asks for Funds to Survey Pesticides

### $280,000 a Year Granted For Studying Effect of Spraying on Wildlife

WASHINGTON — Some Congressmen think that pesticides may be more dangerous to fish and wildlife than was thought at first. So legislators recently passed a bill granting the Department of the Interior $280,000 a year for studies on pesticide dangers to wildlife. The bill is awaiting the President's signature.

Purpose of the bill, introduced by Rep. Lee Metcalf of Montana and Sen. Warren Magnuson of Washington, is "to undertake comprehensive continuing studies on the effects of insecticides, herbicides, fungicides, and pesticides upon the fish and wildlife resources of the United States."

This legislation follows close on the heels of the noted "DDT case" (Croplife, June 30 and July 14) although independent from it. Residents of Long Island (N.Y.) charged that DDT aerial sprays against the gypsy moth has caused the deaths of birds, bees, fish, and aquatic life.

The House Committee on Merchant Marine and Fisheries stated in its re-

(Turn to SURVEY, page 8)

## Farm Bill Calls for New Look at Fertilizer and Pesticide Markets

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — The farm bill which passed the Senate by a substantial majority would create a new economic environment for such crops as cotton, corn and rice, calls for a re-examination of fertilizer and pesticidal chemical industry sales plans for those crops in 1959 and subsequent years.

Notwithstanding publicly-spoken opposition from Democratic members of the House, it is confidently expected the House will be compelled to accept the Senate version and enact it without major changes, if any at all.

Briefly, in principle, the Senate farm bill accomplishes these major objectives:

**1. It ends the concept of parity as a standard from which levels of price support are computed, and in its place it adopts the average market price for these crops for the previous three years at levels of support at between 60-90% of such levels. As a minor concession to a small but vocal Senate opposition minority, USDA and the floor managers of the bill did provide minimum levels of price support for these crops based on the use of parity as the concept of measurement at 60% of parity, or a specific dollars and cents level whichever is the higher in the case of corn in 1959. The Senate bill adopts the Benson principle of price support between 60 and 90% for cotton, corn and rice, using the high level of support based on 90% of the average market price for the immediately preceding three years, and the lower permitted level of support is measured in terms of parity at not less than the specific alternative mentioned above.**

2. The Senate bill discards acreage allotments for corn, abandoning the old commercial corn belt classification and puts the entire corn producing area of the nation on a common basis of price support.

Individual provisions of the bill concerning the three commodities named above are those which point out a new sales map for the agricultural chemical industries for cotton. If the Senate bill is enacted, it first will provide expansion of cotton acreage for the 1959 crop year.

This expansion is obtained in this way—cotton producers will have a choice of two alternatives: 1. Under plan (A) cotton farmers may remain under the present acreage allotment

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## *Western Cotton Output On Increase, Census Reports*

WASHINGTON — Support for the thesis that the prime sales areas for fertilizers and pesticides for use on cotton, is moving Westward, is seen in the report of the Bureau of The Census, U.S. Department of Commerce, released July 28, 1958.

The report lists the fifty largest cotton producing counties in the U.S. for the 1957 crop year, and points out that these fifty counties produced 49.7% of the entire U.S. production.

**Among the leading counties making this record were 23 in Texas, 8 in Arkansas, 7 in California, 6 in Mississippi, 3 in Arizona, 2 in New Mexico and 1 in Missouri. Of the first five top cotton-producing counties in the U.S., three in California, (Kern, Fresno and Tulare) produced more than 1.1 million bales of the commodity.**

Obviously, it is much too early to write off all cotton produced in the Southeast, but that production is a declining statistic no matter what the local political leaders say. For example, the state of South Carolina is reported by the bureau of the census for 1957 as producing only 346,000 bales; Georgia—391,000 bales; Alabama—520,000 bales. From those figures it may be seen that in two instances cited, Kern County, California, with an output of 460,058 bales, produces more cotton than does South Carolina or Georgia.

The sales guide posts available in this Senate-passed farm bill and the material provided in this bureau of census report are highlights of conditions of change that are also in the foment of the farm revolution in the U.S. for corn and rice.

Elsewhere in this issue of Croplife

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## Opportunties Appearing For More Off-Season Application Of Fertilizers in Northeast

HOW does the practice of fertilizing various crops in the fall of the year fit the agricultural pattern of the Northeastern states? Is it practical and economical? Dr. E. T. York of the American Potash Institute has answered these questions at least partially in a recent statement:

"With regard to new practices or possibilities for the proper use of fertilizers at times of the year other than the spring season, there is developing in the Northeast a philosophy that improved forage crops (alfalfa, ladino clover, trefoil, etc.,) should receive split applications of fertilizer two or more times during the growing season," he says.

"Many are suggesting that with alfalfa, for example, an application of fertilizer should be made after each cutting. The principle behind such a philosophy appears to be basically sound. One of the main objectives is to maintain a better supply of nutrients — particularly potassium — throughout the entire growing season than is possible where most or all of the fertilizer is applied at one time in early spring.

"The same arguments could, of course, be applied to the use of nitrogen as well as potash on grass. Consequently, it could lead to a rather sizable market for mixed fertilizers throughout the late spring and summer months. The principles involved here would undoubtedly apply in areas other than the Northeast.

"I think it is very likely that, if such a program were widely adopted, it would mean not only a better distribution of fertilizer usage during the season, but also an increase in total fertilizers consumed on forages," he concludes.

Fertilizer recommendations in some of the Northeastern states confirm Dr. York's observation that greater use could be made of fertilizer applications in the off-season. Here are some of the suggestions made in various bulletins issued by agricultural

(Turn to OPPORTUNITIES, page 6)

## Former Monsanto Employee Enjoined By Federal Court

SALT LAKE CITY, UTAH — Charles M. Miller, an employee of Central Farmers Fertilizer Co., on July 28 was perpetually enjoined by the U.S. District Court here from "appropriation, use or revelation" of any trade secrets and other information and data taken while he was an employee of Monsanto Chemical Co., St. Louis, Mo.

Central Farmers is a Chicago cooperative with a plant under construction at Georgetown, Idaho. The Monsanto property involved, consisting of blueprints, operating and cost data and other information, did not constitute the work product of Miller when he was employed by Monsanto.

The court also found that the F.

(Turn to MONSANTO, page 21)

## Inside You'll Find

Luis J. Vergne

**TO LATIN AMERICA—International Minerals & Chemical Corp. has announced the appointment of Luis J. Vergne as sales manager — Latin America, for the company's phosphate minerals division. He will be responsible for IMC's phosphate rock sales in Mexico, Central and South America, and the Caribbean area. Mr. Vergne joined International in March, 1957, after four years in sales and traffic with Transcontinental Import Export Corporation, a New Orleans firm engaged in foreign trade with Latin America. He holds a B.A. degree in International Relations from Tulane University.**

## New Jersey Farm Wage Rates Higher This Year

TRENTON, N.J. — The average New Jersey farm worker who is supplied with a house by his employer received a monthly pay check of $219 on July 1 of this year. The comparable figure on the same date last year was $206. For the hired man furnished with both board and room, the average wage rate in New Jersey was $160 on July 1, 1958; $148 on July 1, 1957.

The average rate per day without room or board was $9.50, compared with $9.20 a year ago.

All of the New Jersey farm wage rates were considerably higher than the national averages on the first of this month: $181 per month with house; $135 per month with room and board; and $5.80 per day without board or room.

Averaging all different methods of payment together on a per hour basis, New Jersey farmers paid more for labor than all other states but six. The Mountain States of Washington, Oregon and California, and the three southern New England states, Massachusetts, Rhode Island and Connecticut, were the only ones where prevailing farm wage rates were higher.

## Hazardous Substances Booklet Published

NEW YORK—The Chemical Specialties Manufacturers Assn. has just published the first complete "Compilation of Labeling Laws and Regulations for Hazardous Substances," a 114-page book covering the laws of 16 states and cities as well as the Federal Caustic Poison Act and the CSMA "Model Hazardous Substances Labeling Act for Retail Packages."

The book was prepared by John D. Conner and Robert L. Ackerly, association counsel, in cooperation with the executive staff of CSMA. "This project was undertaken because of the great need of the chemical, chemical specialties and sanitation products industries for such a compilation," an association spokesman said. The book is so prepared that new laws and additions can be added. Pages are punched for a standard three ring binder and the cover is removable for inserts.

## Fall Fertilization Urged by NPFI to Save Time and Money

CHICAGO—Planning now for fall fertilizer supplies can pay off in five different ways, reports the Midwest division of the National Plant Food Institute:

1. At this time it is easier to get the exact ratio and grade of fertilizer needed.

2. Adding extra plant food in the fall needed for top corn yields and bumper small grain crops, will help boost profits and reduce costs of production.

3. Top-dressing alfalfa with phosphate and potash fertilizer in the fall helps spur faster spring growth. Dairy and beef cattle will have extra grazing days and feed bills can be cut.

4. Fields are usually easier to get on in the fall. The ground is firmer than in spring and there is less damage from packing down the soil.

5. When fertilizer is added in the fall, there is no storage problem. The plant food is in the ground, ready to feed the young plants as soon as crops begin to grow in the spring.

"In planning a fall fertilizing program," says the Institute, "it is wise to consider the type of soils in the fields. On very sandy soils, nitrogen losses can be costly most years. And when the fall aand winter are particularly rainy, nitrogen can be lost by leaching on well drained loam and clay loam soils.

"However, there is little chance of nitrogen loss by leaching on heavy soils when winter rainfall is low and the water moves downward slowly."

## Minnesota Pasture Tour Scheduled for Aug. 27-28

ST. PAUL, MINN.—A pasture fertilization tour for fertilizer salesmen, dealers, industry agronomists and other interested personnel is scheduled for parts of Minnesota Aug. 27-28, it was announced by Dr. W. P. Martin, head of the University of Minnesota Department of Soils. The tour will be conducted by University staff members, including Dr. Lowell Hanson, extension soils specialist; Dr. Ermond H. Hartmans, extension farm management specialist; and William F. Hueg, extension agronomist.

Tour members will visit five farms in southeastern Minnesota where pasture fertilization and management demonstrations are in progress. The demonstration program in 11 southeastern and northern Minnesota counties is being supported by a National Plant Food Institute grant this year.

The tour will open with a briefing session at 10 a.m., Wednesday, Aug. 27, at the Oaks Restaurant, Minnesota City, north of Winona.

Among speakers will be: Roland Abraham, assistant director, Minnesota agricultural extension service; Dr. Hanson, Dr. Hartmans and Prof. Hueg. Zenas H. Beers, NPFI Midwest director, will discuss the demonstrations in relation to the institute.

Next will be a ration-a-day grazing demonstration by Guernsey cows on fertilized pasture at the Willard Pierce farm near Fremont. This stop is slated for 3:15 p.m.

## To Marketing Post

SHREVEPORT, LA. — Melvin A. Finuf, manager of sales since May, 1957, has been elevated to the staff of the executive vice president of the J. B. Beaird Co., Inc., as marketing assistant, John L. Tullis, executive vice president has announced.

Climaxing 23 years of broad experience in sales, engineering and production at Beaird, Mr. Finuf will perform a key staff role in the planning and execution of the company's long range program of market expansion, Mr. Tullis added.

## Connecticut Names Deputy Entomologist

NEW HAVEN, CONN.—Ralph G. Cooper of Colebrook, Conn., has been appointed a deputy state entomologist by the board of control of the Connecticut Agricultural Experiment Station. He will be in charge of gypsy moth control and related field work as provided by state law.

The field force under his direction scouts woodlands to determine areas in which the gypsy moth "reaches or threatens to reach epidemic proportions." They also may arrange for spraying infested areas, in cooperation with the towns, and they inspect areas where aerial spraying is to be done. Other duties of the 18-man crew under Mr. Cooper's direction include the eradication of Ribes, an alternate host of white pine blister rust, and the inspection of nurseries for injurious insects and plant diseases. The nursery inspection is directly supervised by W. Theodore Brigham, also a deputy state entomologist.

Neely Turner, state entomologist and vice director of the station, said that Mr. Cooper has been foreman in charge of the Colebrook area. He has been on the Station staff since 1925. Mr. Cooper replaces O. B. Cooke, retired.

## NAC Appoints New Information Director

WASHINGTON—The appointment of Denis Hayley as director of information for the National Agricultural Chemicals Assn., has been announced by Lea S. Hitchner, executive secretary of the organization.

A graduate in horticulture from Virginia Polytechnic Institute, Mr. Hayley has had over 20 years' experience in the agricultural chemical field. He joins the NAC staff after being product manager for a unit of Diamond Alkali Co. of Cleveland, Ohio.

A native of England, Mr. Hayley emigrated to the United States in 1928. He started his career as a salesman for Tobacco By-Products & Chemical Corp. which later became a division of Virginia-Carolina Chemical Corp. and, more recently, a unit of Diamond Alkali Co.

During World War II, he served with the U.S. Navy as stores and materiel officer for a flotilla of LST's attaached to the 5th and 7th fleets.

Dr. S. E. Younts

## Potash Institute Names New Eastern Agronomist

WASHINGTON—Dr. E. S. Younts, former research assistant professor of soils at the University of Maryland, has joined the American Potash Institute as agronomist for the eastern region serving the area from Virginia to Maine, it was announced by Dr. B. H. Mann, president of the Institute, and Dr. E. T. York, eastern manager, of Washington, D.C. Dr. Younts will work out of Washington, D.C.

A North Carolina native, Dr. Younts is a graduate of North Carolina State College, where he earned his B.S. in agricultural education in 1952 and his M.S. in agronomy in 1955. He minored in plant physiology.

From Cornell University, he earned his Ph.D. in 1957, majoring in agronomy and minoring in plant physiology and inorganic chemistry. He joined the Maryland Department of Agronomy in March, 1957.

**FOLIAR FEEDING**

ROCHESTER, N.Y. — Foliar feeding is being tried along East Avenue. Wilbur E. Wright, parks director, said the city is spraying the trees on an experimental basis. The East Avenue Assn. is supplying the chemical. Mr. Wright said results probably won't be known for a year.

# Southwestern Fertilizer Grade Hearing in Texas Attended by 300 Conventioneers

GALVESTON—Fertilizer manufacturers, state control officials and their families from Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas, plus basic material producers from all points of the nation, attended the 33rd Southwestern Fertilizer Conference and Grade Hearing at the Buccaneer Hotel here July 16-19. The attendance exceeded 300 again breaking all previous records. Golf, deep sea fishing, beach activities and a large social reception highlighted June 16.

Stanley Hackett, Dixie Fertilizer Co., Shreveport, was chairman of the business session July 17. Dr. Russell Coleman, executive vice president of the National Plant Food Institute talked about NPFI's study on "Farmers Attitudes Toward the Use of Fertilizer" and introduced Dr. Robert L. Beacher, NPFI Southwest regional director, who said NPFI plans included a county promotion program, and undertaking of working with bankers and a demonstrational visitation project.

Dr. Beacher mentioned that the county promotion, which is scheduled to get under way this fall, will be based on soil testing and would be located in one parish in Louisiana, one county in east Texas and two counties in Arkansas. This project is aimed at testing every farm in the particular county or parish within a 12-month period.

**The demonstration visitation program, Dr. Beacher said, is being set up to help attract more farmers and fertilizer salesmen to demonstrations being conducted by colleges in the Southwest. Dr. Beacher also said that NPFI planned to revise its southwestern research projects in order to develop better information on the economic returns from fertilization under different moisture conditions.**

At the July 17 morning session, Clayton Rand, Gulfport, Miss., an editor, author and syndicated columnist, spoke.

R. H. Linderman, International Minerals & Chemical Corp., was chairman of the golf tournament, and the activities for the day were concluded with a reception, banquet and dance.

Dr. J. F. Fudge, state chemist, Texas A&M, presided over the Southwestern Annual Grade Hearing July 18. Dr. Fudge spoke for Texas, Dr. Lyell Thompson, University of Arkansas represented Arkansas and Park Yeates, director of feed and fertilizer division, represented Oklahoma. Mr. Yeates said that Oklahoma was going to higher minimum grades.

(Turn to GALVESTON, page 20)

# Trace Elements Included in Fertilizers Play Key Roles

By Dr. Vincent Sauchelli

Chemical Technologist, National Plant Food Institute
Washington, D. C.

MINOR nutrient elements, so-called, as distinguished from the major elements nitrogen, phosphorus and potassium, are all too often considered as relatively unimportant in crop and animal nutrition. Perhaps the designation "minor elements" may be somewhat responsible for this attitude. That they are anything but minor in importance in nutrition is being constantly revealed by research workers in this country and abroad.

Some of the comments which follow may be tedious, but some things must be said over and over again in order to have them register in the public mind. This is one of the chores of technical progress and it calls for patience with zeal.

In its efforts to expand the use of its products, the fertilizer industry must recognize that its message has to compete with the glamour of new antibiotics, jet engines, sputniks and similar dramatic news. But since its efforts, while being of honest self interest, are nonetheless of national interest, too, it must patiently keep everlastingly at it. Progress in putting the message across to the public has been made and the story of the role of commercial fertilizer in the nation's economy is better known today than a decade ago. Modern means of communication effectively remove much of the tedium of retelling the century-old role of NPK in crop production.

Coming back to the minor elements: it is noteworthy that research into the role of these elements is outstanding in New Zealand and Australia. Interest in these two countries has focussed on these elements and their soil scientists have revealed many biological relationships helpful also to investigators in other countries.

**Typical of New Zealand attitude is this comment by Dr. J. Melville, one of its eminent scientists, in grasslands management: ". . . the sound nutrition of plant and grazing animals requires the utilization of no less than 12 different mineral elements, most of which are ignored at present but cannot be indefinitely neglected in fertilizing programs.**

And another, Dr. E. W. Russell, internationally known British authority on soils, warned a New Zealand audience recently in this wise: "As the carrying capacity of our grasslands is pushed up to higher levels, the trace element position needs to be very closely watched."

The 12 mineral elements referred to by Dr. Melville cannot, like the carbohydrates, be fabricated by plants out of air, rain and sunshine. They must be derived from the soil and unless they are present and available to the growing plants, they and the animals depending upon them will suffer. I like the illustration of this mutual biological dependence as given by Dr. W. A. Albrecht of Missouri. He pictures a pyramid with man at the top and animals, plants, microbes and soil in that order, below him.

"Man," says Dr. Albrecht, "has reveled in the loftiness and authority of that position but is slowly realizing that it is a more and more hazardous one. It represents the extreme of complexities and numbers to which his foods must be chemically compounded and delivered by the coordinated and consecutive helps from the life forms below him. If they fail him, he suffers deficiencies. He, like his supporting animals, cannot synthesize the necessary proteins from the elements.

**"Animal life can only assemble them from the amino acids provided the necessary kinds and amounts of each of these can be collected from the plants and the microbes still lower in the biotic pyramid. These are the lowly forms by which alone these essentials are created from the simpler elements, including many from the soil."**

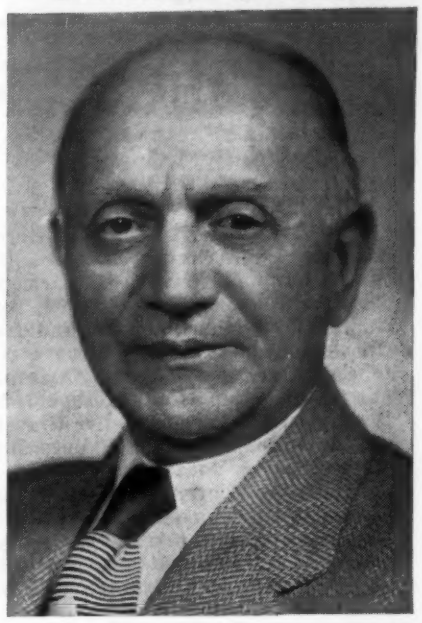
**EXAMPLES**

The role of the minor or trace elements in living organisms is complex and not yet completely understood. Research is being directed increasingly into their vital behavior. Some brief examples may illustrate their essentiality.

Consider the case of black wool on sheep which turns gray if copper and cobalt are lacking in the diet. The natural crimp in wool is recognized as a major factor in its quality. The market does not want straight fibered wool. In South Africa, sheep grazing on certain soils developed the offending straight fibered wool and farmers were losing their market. A long, patient research brought out the fact that the herbage on which the sheep grazed lacked copper and this deficiency starting in the soil was the cause. Sheep lacking copper grew straight fibered wool.

Australia has an area of poor soil called the Ninety Mile Plain, which would grow stunted scrub. Soil scientists were put to work to find out why commercial crops could not be grown here. It was found that by

(Turn to SAUCHELLI, page 23)



Dr. Vincent Sauchelli

# INSECT, PLANT DISEASE NOTES

## Pink Bollworm Infests Parts of Arizona

PHOENIX, ARIZ.—Pink bollworm has invaded Arizona cotton fields again, forcing growers in Maricopa County to spend about $60,000 this summer in dusting to try to eradicate the pest which is regarded as a potential threat to all areas of Arizona, not just Maricopa County, says J. N. Roney, entomologist for the University of Arizona agricultural extension service.

"Moths have been known to fly as far as 500 miles in Egypt," Dr. Roney said. "It's very important for everybody in the whole state of Arizona to participate in watching for this insect."

Farmers are urged to see if they have any pink bollworms in their fields, or to report any insect which they are suspicious about to their county agent.

"This is one of the worst infestations yet in the history of Arizona," Dr. Roney said. "If not controlled, it could cost Arizona millions of dollars."

Pink bollworm infestation has been in Arizona since 1927. It has been estimated $5,000,000 in public funds have been used to eradicate it. Arizona is the only area in the country to have successfully eradicated it, Dr. Roney said.

At the end of July, airplanes began flying to dust 3,000 acres in Maricopa County in an effort to control the infestation. Dust used was 10% DDT and 50% sulfur, at the rate of 25 lb. an acre. It will be applied at weekly intervals for 8 weeks, or almost until the middle of September. Cost of applying the dust is about 10¢ a pound.

## Cotton Insects Noted in New Mexico Report

STATE COLLEGE, N. M.—Spotted alfalfa aphid (Therioaphis maculata) is in generally light infestations with occasional heavy infestations reported in Dona Ana, Eddy and Chaves counties.

Extremely heavy populations of lygus bugs (Lygus spp.) in seed alfalfa. Often average 1 per sweep and are mostly nymphs in fields checked in Dona Ana county.

Corn earworm or tomato fruitworm (Heliothus zea) eggs and larvae are abundant on corn, severely damaging corn throughout the state. Beginning to cause trouble in tomato fields in Luna and Dona Ana counties. Cabbage aphid (Brevicoryne brassicae) infestations are damaging cabbage in Luna and Lea counties, and mites (Oligonychus stickneyi) are severely damaging sweet corn in Dona Ana county.

The cabbage looper (Trichoplusia ni) is in moderate to heavy infestations, damaging cabbage at Deming, Luna county. Control difficult for harvest has begun.

Tomato hornworm (Protoparce quinquemaculata) is damaging tomatoes in several fields in Luna, Dona Ana and Lea counties.

**Cotton insects are active. Cabbage loopers (Tricholplusia ni) continue to build up in cotton fields throughout most cotton growing areas. Larvae much more numerous than last week. Bollworm (Heliothus zea) larvae and eggs mostly light and spotty, with a few moderate infestations in cotton growing areas of state.**

Lygus bugs (Lygus spp.), light to heavy in cotton growing areas. Count as high as 35 per 100 sweeps in experimental check plots near Las Cruces, Dona Ana county, and the cotton aphid (Aphis gossypii) is scattered in moderate to heavy infestations in Dona Ana, Luna and Eddy counties.

Heavy infestations of stink bugs (Chlorochroa sayi and C. ligata) severely damaging bolls and squares in Deming, Luna county. Less severe infestations in Dona Ana county. Fleahopper populations appear to be decreasing in most fields in Chaves, Eddy, Lea, Dona Ana, Luna and Hidalgo counties.

Grasshoppers were damaging cotton along field margins north of Socorro, Socorro county.

## Armyworm Infestation Light in Minnesota

ST. PAUL, MINN. (July 25)—Only two fields reported sprayed during the past week for armyworm in N.W. district. Occasional barley fields show small numer of larvae in lodged areas —barley rapidly approaching maturity.

Light trap catches of armyworm moths in considerable numbers have been taken at Worthington and at Fergus Falls. Counts have been higher than any time previous this year.

Grasshopper populations generally low in S.E. district. In C. district the three highest counts were 12, 25 and 30 per sq. yd.—other stops in district were non-economic. The red-legged grasshopper (Melanoplus femur-rubrum) was the predominant species—present as 1st and 3rd instar. In W.C. district non-economic populations except along roadsides and in some fields in Lac Qui Parle and Yellow Medicine. Fifty to 60 per sq. yd. reported in two fields in Yellow Medicine Co.—again the red-legged 'hopper was predominant—1st and 3rd instar. In Chippewa Co. one report of 27 per sq. yd.

**Pea aphid (Macrosiphum pisi) populations in alfalfa were reported lower this past week with occasional fields still having high populations. Predators, such as the lady-bird beetle, have increased in all districts and have reduced aphid numbers. There have been reports of thin, off-color stands of alfalfa, especially in the C. and S.W. districts. The poor conditions of alfalfa is probably not due to aphid feeding but most likely is caused by a fungus disease Psuedoplea leaf spot. The Dept. of Plant Pathology indicates that this disease has been reported throughout the state. This disease develops during cool, wet weather.**

The average percentage of plants infested with corn borers continues low with the highest count (33%) in the S.W. district. Most borers are in the 1st and 3rd instar. Southern districts have up to 5th instar borers—no pupation has been reported. Sugar beet webworm (Loxostege sticticalis) is reported present in all stages in Red River Valley beet growing area. Some beet fields have up to 8 webworms per leaf — other fields have very light populations. Moths are numerous in unsprayed fields. Reports from Benson area indicate webworm causing severe damage to soybeans—North Dakota reports damage to flax, soybeans, potatoes and even cereal crops.

Apple maggot (Rhagoletis pomonella) egg hatch and subsequent damage was found within apples during the past week. Adult flies in quite high numbers were found laying eggs in neglected orchards. Emergence continues; continued protections is necessary in all areas.

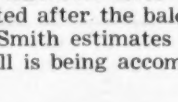
## Field Mice Being Watched In California Crops

TULELAKE, CAL. — Area farmers were warned to continue to keep a close watch on potato and grain fields for mice in a statement released by Leroy B. Smith, Modoc county agricultural inspector.

**"The mouse control program seems to be making progress," Smith said. "A field count in the east end of the area shows approximately 200 mice an acre in alfalfa and 100 mice per acre in grain fields.**

Mr. Smith said he estimates damage in most of the alfalfa fields to be between 25 and 50% with a five to 15% loss estimated in grain fields.

Several hundred acres of alfalfa were treated after the baled hay was removed. Smith estimates that an 85 to 90% kill is being accomplished.



## Insects Hit Crops in Canadian Province

WINNIPEG — Grasshoppers, pea aphids and beet webworms are all causing serious concern to Manitoba farmers, particularly in southern parts of the province, according to D. R. Robertson, provincial entomologist.

The pea aphid is particularly troublesome in the Red River valley where it is attacking alfalfa, sweet clover and field peas. Farmers have been advised to take control measures for field peas but cautioned regarding the use of such measures in alfalfa and sweet clover.

**Serious infestations of some sugar beet fields by the beet webworm has been reported. Some sunflower and alfalfa fields have also been attacked. Spraying of foliage of affected crops has been recommended.**

Grasshoppers are more widespread through the province than are either the pea aphid or beet webworm particularly on hay and pasture fields in southwestern Manitoba. Noticeable damage to crops is slight according to Mr. Robertson, but with many of them ready to move into grain crops farmers are being urged to use control measures.

## Dutch Elm Disease in Wisconsin Counties

MADISON, WIS. (July 25)—Since the last bulletin, the first cases of Dutch elm disease for Dane and Green counties were diagnosed by the department's Dutch elm disease laboratory. The Green county tree was located in a rural area in Spring Grove township of Brodhead near the Rock county and the Illinois state lines. Specimens submitted by the City of Madison Forestry Department came from a tree located on the east side of Madison. The smaller European bark bettle has been found for the first time in Calumet county, and the native elm bark beetle for the first time in Calumet and Dodge counties.

In the Lake Winnebago area the first major emergence of lake flies, **Tendipes plumosus,** began on July 18, with light numbers, which was followed by a heavy emergence on July 19. Emergence is continuing. The presence of large numbers of this insect is extremely annoying to residents of the area.

**The main hatch of red-legged grasshoppers appears to be nearly completed in light soil areas; is in progress on heavier soil in southern and western sections, and is about to begin in other parts of the state that have been cooler or where rains have favored better vegetation ground cover. Numbers of newly hatched grasshopper nymphs, while present in economic numbers in many fields, are not alarming but are of greater concern since yields of first crop hay were relatively light, and dry conditions are affecting the growth of the second crop in many localities.**

Considerable variability in grasshopper populations exists between alfalfa fields in the same locality. Ten 'hoppers per square yard were highest counts on July 15, in Jackson, Trempealeau, Buffalo, Pepin and Pierce counties, with 50% of fields having almost no 'hoppers. On July 16, in St. Croix, Polk, Burnett, Washburn and Barron counties, counts ranged from 3-9 per square yard, but about 80% of the fields had 'hoppers. One field in Burnett county averaged 25 per square yard.

In Chippewa, Taylor and Marathon counties on July 17, averages were low but there were indications that egg development had been retarded. However, some fields in some of these counties (light soil) had economic numbers of 'hoppers. On July 18, ten 'hoppers per square yard were found in some Wood county fields, but fields in Portage, Waushara and Marquette counties commonly had counts of 25 per square yard.

About 30% of the fields checked in Sauk, Iowa, Richland and Vernon counties had almost no grasshoppers, and highest counts ran up to only 5 per square yard on July 21. Hatching was beginning on July 22, in Dane, Crawford, Vernon and Richland counties, with some fields having as many as 12-15 newly hatched (1st instar) grasshoppers per square yard. On the same day fields examined in Sauk and Monroe counties had as many as 27 per square yard.

Many of the alfalfa fields had large numbers of adult spittlebugs and fair numbers of alfalfa, rapid and tarnished plant bugs. Potato leafhoppers were present in smaller numbers than at the same time in 1957. Pea aphids were present in almost all fields but had large populations in only a few.

**Light armyworm feeding in many corn fields has been noticed and has subsided in southern Wisconsin, but no damage in small grain in this area has been reported. Armyworms were observed in dense growth alfalfa-brome grass fields in Barron and Monroe counties.**

Examinations of field corn show European corn borer infestations in southern counties limited chiefly to early and advanced plantings, and in these the percentage of plants infested was not high. Most of the highest infestations noted during the week ranged between 25-35% of the plants infested. Higher populations in canning sweet corn were observed in the area which lies west of the southern end of Lake Winnebago.

## Corn Borers in Iowa Like 1957 Situation

AMES, IOWA (July 26) — First brood pupation of European corn borer was 3% at Ankeny July 25. In Boone County, the situation is exactly like 1957, with 6% pupation and 78% fifth instar borers. In these randomly selected fields 64% of the plants are infested with 89 borers per 100 plants. Warmer weather this past week has been favorable for borer development.

**Egg masses of white marked tussock moth are present on shade trees. The second brood of larvae**

**will appear soon. Treat as soon as foliage damage is seen.**

Pine bark aphids were sent in from Davenport and Manchester. These aphids produce a white wooly material at the base of needles and on bark. Field crickets are becoming abundant in yards, will soon move into houses.

Cattle shipped into Iowa from Texas since March 1 should be treated any time until Sept. 1 with a systemic insecticide. Such cattle have grubs in them due to encyst in Sept. or Oct. —Harold Gunderson.

## Curly Top Disease Spreads in Colorado

FORT COLLINS, COL. — "Curly top" disease in sugar beets, already serious in Western Colorado, is spreading to the Eastern Slope. The virus disease, carried by the sugar beet leafhopper, is spreading in Boulder, Weld and Larimer counties, according to the mid-July reports of the Colorado Insect Detection Committee.

**In Boulder County, field surveys show some sugar beet fields have as high as 20% infection. The average for the three counties is about 5%.**

On the Western Slope numbers of leafhopper adults are high in Garfield and Montrose Counties. Besides sugar beets, the insect transmits "curly top" disease to tomatoes and possibly potatoes.

In Mesa County a small infestation of the spotted alfalfa aphid has been reported at New Liberty. The average is between 4 and 10 per 100 sweeps. So far there have been no new infestations or spread of the insect.

In Logan and Larimer Counties corn fields are suffering severe crown and root damage from the corn root worm. Heavy infestations of locust gall midge have been observed in Pueblo, Fremont, Boulder and Larimer Counties.

At Rocky Ford in Otero County light traps have collected large numbers of variegated cutworm and army worm moths. An increase in aster leafhoppers has been observed at Rocky Ford and Greeley.

**On the Western Slope, second brood adults of the codling moth were taken in traps on July 10 in Garfield County. In Delta County the third summer spray was to have been completed by July 16.**

Tuber flea beetles have been taken on potatoes near Carbondale in Garfield County. Field surveys show between 5 and 10 adults per 100 sweeps.

Mexican bean beetle adults are adundant near Loma and Fruita in Mesa County. Egg deposition is heavy in early planted fields. In Montrose County eggs are hatching in early plantings and control measures are recommended.

## Oklahoma Reports More Alfalfa Aphids

STILLWATER, OKLA. — Spotted alfalfa aphid populations in western and southwestern Oklahoma have increased rapidly, according to a recent Oklahoma cooperative economic insect report.

One Kiowa County alfalfa field had 3,000 to 6,000 aphids per ten sweeps. This, say the entomologists, is the highest infestation reported from Oklahoma in over a year. Many fields in the southwest had several hundred to 1,000 and more per ten sweeps. Numbers in the western section were considerably lower. Aphid populations in the remainder of the state showed very little change.

## Kansas Baits 200,000 Acres for Grasshoppers

MANHATTAN, KANSAS — More than 200,000 acres of western Kansas land will have been treated for grasshopper control when spraying is completed. This is the acreage reported by Kansas State College and U.S. Department of Agriculture entomologists who have directed the hopper control program since June 9. David L. Matthew, state survey entomologist stationed at Manhattan, is at Elkhart near which the 90,000-acre land use project is being treated with an insecticide.

**This work is being done largely by the federal government as the rangeland is under the supervision of the USDA Forest Service. Property owners of approximately 10,000 acres of rangeland in the area are paying two-thirds of the cost of treating their land.**

In the 18-county western Kansas area where the cooperative county-federal roadside hopper control program was conducted, 122,219 acres were treated. This included 54,783 acres by aircraft, 57,588 acres by ground equipment, 6,715 acres of railroad rights-of-way by aircraft, and 3,133 acres of federal-state highways by ground equipment.

Dell E. Gates, extension entomologist at Kansas State College; D. J. Fitchett and Jerold Bell of the USDA plant pest control staff at Lincoln, Neb., and Matthew directed the control program.

Bagworms could cause heavy damage this summer in eastern and southeastern Kansas, according to Ray A. Keen of the department of horticulture at Kansas State College. Evergreens seem to be the favorite food of the bagworms this summer, but they also may be expected to attack willow, box elder, maple, locust, cedar, arbor vitae and other evergreens, apple and pear trees, and many other plants, he warns.

## Few Spotted Alfalfa Aphids In California Fields

SAN FRANCISCO, CAL. — The spotted alfalfa aphid has been lying low this season in croplands of the San Joaquin Valley and Central Coast area, apparently held in check by lady beetles and other natural insect enemies.

**But nearly complete absence of the pest now may mean danger of increased attacks later, according to entomologists at the University of California, Berkeley. The lady beetles have been leaving many fields because of a lack of food. After the helpful predators are gone, the apids may begin to multiply and cause crop damage, according to K. S. Hagen of the department of biological control.**

Still an unknown factor in Northern California aphid control this year

(Turn to **INSECT NOTES**, page 8)

# Opportunities Appear For Off-Season Application of Fertilizers in Northeast

(Continued from Page 1)

experiment stations in the area, concerning off-season application:

Fertilization in the off-season in Connecticut is applicable on a number of crops, according to Arthur Hawkins, extension potato specialist at the Connecticut Agricultural Experiment Station, Storrs, Connecticut, in a recent bulletin.

**He reminds that available soil nitrogen is usually low in the spring in fields which were in potatoes the previous year. As a result of leaching by large amounts of rain and snow during the winter, the soil will be especially low in available nitrogen in the spring.**

Application of about 30 lb. nitrogen an acre by early spring should result in considerable more rye to plow under by the latter part of April, and especially by early May. This amount of nitrogen can be supplied with about 100 lb. ammonium nitrate (33% N) or 150 lb. ammonium nitrate and limestone (20% N). The nitrogen can also be supplied in those nitrogen solutions which contain substantial amounts of nitrogen in the immediately available nitrate form. Unless the soil is low in available phosphorus and potash, there is no need to use a complete fertilizer, the bulletin says.

Redtop is a good soil-improving crop for rotating potato land one year; and redtop alone, or redtop and alsike, are particularly good for land to be rotated out of potatoes for two years, according to Mr. Hawkins.

They can be seeded in the rye on frost-cracked soil. Later in the spring, some means of loosening the soil and light covering of the seed should be provided such as a cultipacker cedars or running disc drills lightly with chain dragging to cover seed.

**After planting seeds at recommended amounts to the acre, the land should be fertilized with 30 lb. nitrogen an acre each spring and fall.**

Tobacco, an important crop in Connecticut, requires good fertilization practices for optimum yield and quality product. However, the sandy-textured soils in the Connecticut Valley have a minimum capacity to retain nitrates at times of excessive rains. This, of course, complicates the efficient management of nitrogen for meeting the demands of the tobacco crop.

According to Henry C. de Roo of the Connecticut agricultural experiment station at New Haven, the best tobacco is produced when it grows continuously without check, just as caused by an insufficient nitrogen supply. During June or the first 30 days after transplanting, the young tobacco plants need very little nitrogen, and an acre of stalk tobacco absorbs only 7 lb. nitrogen.

After the first 30 days, however, the nutritional demand increases quite rapidly reaching its maximum in late July. During this short period, the plants must have an abundant supply of plant food in the soil in easily available condition. It has been established that a tobacco crop utilizes about 120 lb. of nitrogen an acre.

**Although a relatively low available soil nitrogen level at the time of harvesting is favored, the quality of Connecticut tobacco is less adversely effected by an over-abundance of nitrogen than many of the other types of tobacco.**

Conclusions drawn from experiments and practices outlined in the bulletin prepared by Mr. de Roo, indicate that fertilizers high in organic nitrogen of plant or animal origin are not necessary for a production for a high yield of good quality tobacco. Even when all fertilizer is applied before planting, certainly as much as half or perhaps as much as three-fourths of the nitrogen supply can come from relatively inexpensive synthetic organic and inorganic sources with the remainder coming from natural organic sources. This substitution will reduce neither yield nor quality, Mr. de Roo says. On a relatively fine textured soil and when cover crops are adequately fertilized to supply nutrients, use of all oil seed meals should probably be abolished as a means of saving on the cost of fertilization.

**From the standpoint of fertilizer injury and the efficiency of plant food material, careful consideration should be given to proper placement of the fertilizer, Mr. de Roo says. Only up to 800 lb. fertilizer an acre can be placed safely in bands 3 to 4 inches on each side of the row and 1 to 2 inches below the root crown of the transplant, he says. The remainder of the fertilizer may be plowed under in part, with the balance disced into the plowed land before the plants are set.**

Fertilizer applications must eventually be integrated with other operations such as plowing, cultivation, and irrigation, in order to obtain the greatest savings in labor and materials, the Connecticut experimenter indicates. Furthermore, the fewer trips made through the field, the less is the danger of packing soil and restricting the feeding zone of the crop, he observes.

Fertilizer and lime recommendations for the staate of New Jersey have been outlined in various bulletins and circulars from the agricultural experiment station at New Brunswick. Virtually all New Jersey soils are deficient in nitrogen, phosphorus and potassium, the bulletins say. Most crops require an application of these nutrients if they are to make the best possible growth, and all three can be applied in the form of fertilizer. With the exception of legumes, a healthy growth of all other crops can be assured only by the addition of nitrogen to the soil.

Of other elements, magnesium is known to be deficient in New Jersey soils. If soil is low in the element, New Jersey farmers are advised to apply 500 lb. or more of high magnesium lime an acre. In areas where lime cannot be used, a sufficient amount of some soluble source of magnesium should be included in the fertilizer to supply 20 lb. magnesium an acre.

**Among the secondary or trace elements, boron is regarded as the one most likely to be deficient in New Jersey soils. The experiment station recommends that all fertilizers contain 0.5 lb. of boron a ton.**

Furthermore, all fertilizers used on tomatoes should supply 1 lb. boron an acre each year. On boron-deficient soils, alfalfa requires 3 to 4 lb. an acre, also beets, broccoli, cabbage, cauliflower, celery and turnips require annual applications of 1 to 2 lb. boron an acre when grown on soils which are deficient in this element. Manganese becomes unavailable in many soils where the pH is raised above 6.5 by too much lime. An application of manganese sulphate supplying from 10 to 15 lb. manganese an acre, will usually correct the deficiency.

As is the case in many states, the market for fertilization of field crops and pastures in the off-season is attractive in New Jersey. Established alfalfa and clover stands should be top-dressed annually with adequate rates of phosphorus and potassium, the latter being the most limited element in most New Jersey soils. The time of application, whether spring, summer or fall, appears to have little effect on total seasonal yields.

For perennial grasses a complete fertilizer may be applied in the fall after the soil temperature reaches 45° F. except in fields subject to excessive erosion or run-off losses. Additional nitrogen may be added after the first harvest.

**Fertilizers for small grains should be applied through the fertilizer attachment on the grain drill or broadcast and worked into the soil during seed bed preparation, the New Jersey bulletin says.**

Nitrogen top dressing on winter grains should be applied before growth starts in the spring.

Fertilizer for soybeans should not be applied in direct contact with the seed. It is preferable to apply all fertilizer broadcasts and work it into the soil before planting. If fertilizer is banded it should be placed two inches or more away from the seed.

**Fruit trees, also, come in for their share of fertilization. Fruit tree growth under New Jersey conditions, usually need an annual application of fertilizer. The experiment station recommends soil tests. Observance of the tree's vigor, its yield, its size, and color of fruit can help to determine whether a change is needed in the fertilizer formula.**

Trees often need a supplemental application of nitrogen during May or June, the bulletin says.

Nitrogen usually is the most important nutrient element in the growth and development of the tree and in the production of fruit. Where the orchard soil tests show sufficiently high amounts of phosphorus, potassium and magnesium, an application of nitrogen alone may be used for one, two or three years. Sodium of ammonium nitrate are satisfactory sources, the bulletin indicates.

**Orchardists are advised that they should broadcast about 300 lb. of complete fertilizer, such as 5-10-5, to row middles for the sod. "Where cover crops are grown, make this application every year when the soil is prepared for planting. Make a second application to the cover crop in the fall is it is needed," the bulletin says. It adds that the orchard middles should not be neglected and reminds that it is important that soils all over the entire orchard be kept in good fertility.**

In peach orchards complete fertilizer is usually drilled or broadcast on the soil surface. This is a satisfactory method of application if the material is placed well under the trees in the feeding area of the roots. More fertilizer is needed an acre when broadcast, as compared with individual tree application.

"Fertilizer should be applied early in the spring, a month or so before bloom or in late October or November before the soil is frozen," the station bulletin advises.

**Nitrogen, an important element in blossoming and fruit setting, should be applield to the soil in the fall or a month ahead of blooming in the spring to improve fruit set.**

Fall applications are most beneficial to weak trees, the bulletin declares. Fall-applied fertilizer is not absorbed by the sod so much as is spring applied fertilizer. Some nitrogen may be lost by leaching but most of it will be absorbed by tree roots, since they are actively growing almost all winter. Where fertilizer is applied on sandy soils in the fall, however, it is often necessary to supplement it with nitrogen during the month of May.

Fertilization of small grains and hay and pasture plantings offer a market for fall application of fertilizers in many cases, according to the fertilizer recommendations issued by the Maryland agricultural extension service, University of Maryland, College Park.

In the case of small grains, some 200 lb. of 0-20-20 should be drilled with the seed at planting. Where grasses and legumes are to be seeded in the grain, an additional 300 lb. an acre of 0-20-20 should be broadcast before seeding, the bulletin states. Where grains are to be pastured, 400 lb. an acre of 10-10-10 should be used at seeding.

For new seedings of hay in pasture, the Maryland experiment station suggests plowing down 400 lb. 0-20-20 or 575 lb. of 0-14-14. In addition, lime should be applied in accordance to soil tests made earlier.

Fertilizers should contain 60 to 80 lb. borax a ton, the bulletin says. If the fertilizer is drilled near the seed, 200 lb. 8-16-8 should be used. The comment is that band seeding is helpful in many cases. A grade of 8-24-8, if available, is desirable for band seeding.

For maintenance applications for alfalfa and other tall growing grass legume mixtures, the top dressing should be done annually with 400 lb. 0-20-20 an acre or 575 lb. 0-14-14 an acre. The bulletin adds that one should check the lime requirements every 3-4 years, and should include 60-80 lb. borax a ton of fertilizer at least every other year for alfalfa.

**CASH FOR PROGRAM—Prof. Skuli Rutford, director of agricultural extension, University of Minnesota (left), and Dr. W. P. Martin (center), head of the soils department, receive a $2,000 check from the National Plant Food Institute to help support 1958 pasture fertilization demonstrations in Southeast and Northern Minnesota. Presentation of the grant was made by Zenas H. Beers, NPFI Midwest Director, at right.**

ROBBERS OF FARMS . . .

# Weeds Usurp Moisture, Light And Nutrients from Valuable Crops to Reduce Farm Income

By John Vengris*
Department of Agronomy, Massachusetts Agricultural Experiment Station
Amherst, Massachusetts

WEEDS are undesirable plants that interfere with agricultural operations, increase labor requirements, add to costs, and reduce yields.

From a biological point of view, weeds are plants that associate themselves with cultural companion plants. Companion cultural plants may be compatible, beneficial, or even necessary for normal weed growth. Weeds are as old as agriculture itself. Through the years, many different weeds have adapted themselves to the specific conditions in which cultural plants are grown. Some of the weeds follow certain agricultural plants wherever they are raised and so become cosmopolites—for example, lamb's-quarters (Chenopodium album) and chickweed (Stellaria media).

In some cases, the adaptability of weeds has gone so far that they would not be able to survive without companion cultural plants — for instance, cheat (Bramus secalinus) in winter rye. Such plants are obligatory weeds and might be called domesticated plants. Thus, the borderline between cultural plants and weeds is often indefinite; our barley, wheat, soybeans, and flax all were once weeds or wild plants. Avena strigosa Schreb., formerly widely known in parts of Europe as a cultural plant, escaped and now often appears as a wild plant or weed again. And there are quite a few plants that we ourselves call weeds one day and cultural plants another, for example, sweet clover (Melilotus alba) and winter vetch (Vicia villosa). In short, the plants we call weeds comprise a very heterogeneous and indeterminate group of plant species.

**Of about 1,200 species of plants commonly called weeds in the U.S. less than 30 are sufficiently persistent and aggressive to be able to survive indefinitely on crop-rotated land. They are the most important troublemakers on our farms.**

On arable land as well as on grassland, weeds grow alongside cultural plants and often constitute 30 to 50% of the total dry matter production.

Therefore, the competition between these two groups of plants for light, moisture, and plant nutrients must be strong. In general, it should be kept in mind that, in practice, there is almost no such thing as completely weed-free land.

A study of weeds as serious competitors for essential nutrients, moisture, and light with their companion crop plants has long been needed. There are only a few references in the literature dealing specifically with weeds as important competitors for plant nutrients.

It was for this reason that a project to study the competition between weed and cultural plants for plant nutrients was undertaken a few years ago at the Massachusetts Agricultural Experiment Station. Dry matter yields and chemical composition of weeds and cultural plants were determined to evaluate the extent of weed competition with cultural plants. Of all the important Massachusetts field crops studied, field corn was the one most thoroughly investigated.

**Studies on the chemical composition of cultural plants and companion weeds produced some interesting information. In general, in the grasslands as well as in cultivated fields weeds are major competitors with cultural plants for nintrogen and especially for potassium. Both nutrient elements are often limiting factors in crop production. Certain weeds are often able to accumulate considerable amounts of these nutrients at the expense of cultural plants, thereby reducing yields, especially when the availability of these elements in the soil is low.**

High phosphorus accumulation in weeds indicates that weeds are competing with cultural plants for this element, especially when quantities of available soil phosphorus are low. On the other hand, high phosphorus level in weeds, even where levels of available phosphorus in the soil are low, indicates an ability on the part of many weeds to utilize forms of soil phosphates that are relatively unavailable to many cultural plants. The role of some plant species in releasing phosphorus that is not readily available to other plants in the soil has not been appreciated.

Of course, substantial differences exist even between various weeds. Weeds with high feeding power for essential plant nutrients usually invade depleted, run-down land and thrive normally under poor fertility levels where cultural plants show deficiency symptoms and fail to produce normal yields. This helps us to understand why an infestation of certain weeds usually occurs on soils depleted in fertility.

Under the conditions of one experiment, wormseed mustard (Erysimum cheiranthoides) exhibited a strong feeding power for phosphorus when compared with companion crops of alfalfa and smooth bromegrass. Both smooth bromegrass and alfalfa showed a marked increase in phosphorus content with phosphorus fertilization, but the wormseed mustard showed no response to 500 lb. 20% superphosphate to the acre and only slight response to 2,000 lb. superphosphate. On the other hand, we have many common weeds that are typical to highly fertile soils.

Pigweed (Amaranthus retroflexus) is a typical weed found in good soils with an abundance of easily available plant nutrients. It is noteworthy that this weed, as our 1952-1953 tests showed, could hardly establish itself at all even when planted on soils low in available phosphorus.

**Weeds in general, and especially dicotyledonous ones, have a rather high mineral content. They are able to accumulate about as much calcium and magnesium as legumes and as large or larger amounts of potassium as the grasses. In short, we may look on weeds in general as being comparatively rich in minerals. Their value as a feed, so far as they are palatable, should not be underestimated. Often we look with astonishment at the cows that leave lush grass-legume pasture and go to the adjacent run-down grassland to get some "dessert," rich in minerals and vitamins.**

Recently, the question has been raised about the possibilities of growing field corn without any cultivation. It was thought that on liberally fertilized land corn even when grown with weeds might have enough nutrients to produce maximum yields. Thus, we might save cultivation and weed control expenses. Besides, accompanying weed growth controls soil erosion and adds additional organic matter to the soil.

Although heavier rates of fertilization would be required to supply the nutritional requirements of both the corn and the weeds, the additional cost of the fertilizer would be more than offset by the savings made in eliminating certain tillage operations.

In order to collect some data pertaining to the competition between weeds and field corn and to the possibilities of raising corn successfully in association with accompanying weeds, the investigation was started.

**When studying competition between weeds and corn (1952-1955) in field test plots, corn was grown in clean, pure culture and in a mixture of corn with common corn weed species. In 1952-1953, for comparison, weeds were seeded in rows 20 inches apart, each thinned to a uniform stand. Plots planted to corn, as well as those planted to corn with weeds, were cultivated, but the weeds in the corn-with-weed plots were left to grow in the rows surrounding the corn plants.**

The data reveal an interesting point: when corn is grown with weeds, competition for potassium is most noticeable. The difference in potassium content between corn grown alone and corn grown with weeds was significant.

Also, strong competition was clearly evident for nitrogen, especially in early stages of growth. This occurred notwithstanding the fact that all plots were liberally fertilized with all essential plant nutrients. Apparently, even at these high rates of fertilization, weeds competed strongly with corn for all essential plant nutrients, as well as for light and moisture.

When comparing the chemical composition at the same stage of growth of corn and weeds grown together, we see that common corn weeds as fast-growing and strongly competing plants were able to accumulate high amounts of plant nutrients. The average potassium content in weed tissues was three times as high, and the nitrogen content almost twice as high as corn grown with these weeds.

**Relative values for yield and total uptake of plant nutrients by corn grown alone and corn grown with weeds show striking differences. Average data for four years show that corn grown with weeds took up only 44% as much potassium, 53% as much nitrogen and produced 57% as much dry matter as corn grown alone. The data also indicate relatively high yields of weed species grown in pure cultures.**

Reduction in crop yields is usually proportional to the amount of moisture, light, and plant nutrients used by weeds at the expense of the companion cultural plants. Competition for moisture is great, and under dry conditions may be critical.

(Turn to WEEDS, page 20)

*From article in "Better Crops With Plant Food."

TABLE I.—CHEMICAL COMPOSITION OF CORN GROWN ALONE, CORN GROWN WITH WEEDS, AND DIFFERENT WEEDS GROWN WITH CORN. DATA ARE AVERAGES FOR 1952-1955. PLOTS RECEIVED 200 LBS/A N, 200 LBS/A $P_2O_5$, AND 200 LBS/A $K_2O$.

| Plant | Early maturity stage of growth | | | | |
|---|---|---|---|---|---|
| | N% | P% | K% | Ca% | Mg% |
| Corn alone | 1.46 | 0.20 | 1.04 | 0.17 | 0.27 |
| Corn with weeds | 1.38 | 0.19 | 0.76* | 0.20 | 0.36* |
| Pigweed with corn | 2.41 | 0.26 | 2.79 | 0.62 | 0.93 |
| Lamb's-quarters with corn [1] | 2.64 | 0.20 | 2.50 | 0.75 | 0.75 |
| Crabgrass with corn [2] | 2.09 | 0.20 | 1.80 | 0.38 | 0.96 |
| Averages for weeds | 2.38 | 0.22 | 2.36 | 0.58 | 0.88 |

[1] One year's data only.
[2] Two years' data only.
*Significant in comparison with corn grown alone.

TABLE II.—COMPARISON OF RELATIVE YIELDS AND PLANT NUTRIENT UPTAKE BY CORN ALONE, CORN WITH WEEDS, AND DIFFERENT WEEDS GROWN ALONE. CORN GROWN ALONE=100. PLOTS RECEIVED 200 LBS/A N, 200 LBS/A $P_2O_5$ AND 200 LBS/A $K_2O$. DATA ARE AVERAGE FOR 1952-1955.

| Plant | Relative nutrient uptake Corn = 100 | | | | | |
|---|---|---|---|---|---|---|
| | Yields | N | P | K | Ca | Mg |
| Corn alone | 100 | 100 | 100 | 100 | 100 | 100 |
| Corn with weeds | 57 | 53 | 58 | 44 | 66 | 76 |
| Pigweed alone | 60 | 102 | 80 | 124 | 275 | 234 |
| Lamb's-quarters alone [1] | 69 | 120 | 74 | 121 | 281 | 216 |
| Crabgrass alone [2] | 67 | 100 | 64 | 157 | 131 | 228 |

[1] One year's data only.
[2] Two years' data only.

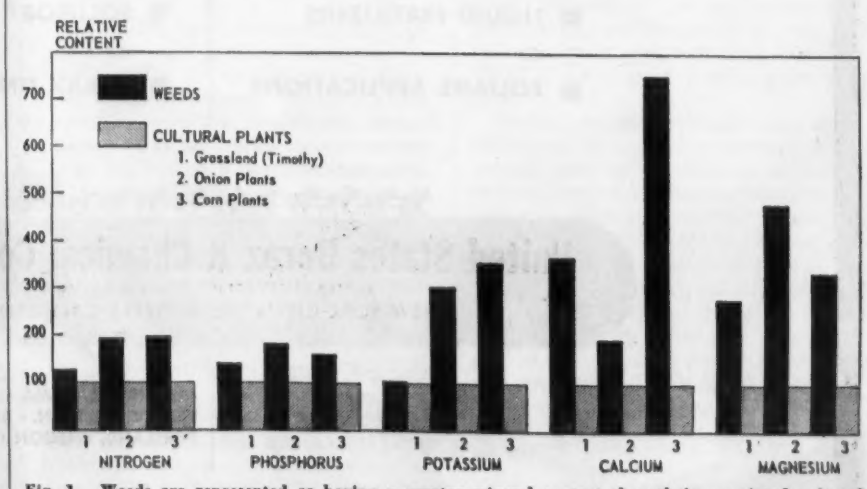



Fig. 1. Weeds are represented as having a greater mineral content than their associated cultural plants. The cultural plants have been given the value 100. Average data of 1950-1951. Samples collected from typical farms in the Connecticut Valley, Massachusetts.

## INSECT NOTES

(Continued from page 5)

are the imported parasites, which have spread over a wide area. If all goes according to plan, these members of the wasp family should continue their work of aphid destruction begun earlier in the season by the lady beetles.

"Most farmers will get through the third alfalfa cutting with little or no trouble," Mr. Hagen says. "But they should begin to watch their fields carefully for signs of spotted alfalfa aphid activity." When the average count reaches 20 aphids per stem, he points out, the time has come to begin recommended treatments.

### Grasshoppers Present in Illinois Forage Crops

URBANA, ILL. — Grasshopper infestations are still present in field margins in western and northwestern Illinois. In general, numbers are not particularly high, but they may eventually damage marginal rows of soybeans and corn. Occasional infestations have been observed in forage crop fields.

First-generation populations of corn borers are low, but pupation has begun in western Illinois and an occasional newly emerged moth was observed this week. The percent of first generation that pupate to emerge as moths will determine the extent of second-generation abundance. Pupation varies from 0 to 15% in the western area and from 0 to 5% in the eastern and northern areas.

Fall armyworms which were so numerous in 1957, have been observed this year. This is somewhat later than the infestation of last year, and they are not so abundant yet.

Leafhopper damage may occur on third crop growth.—H. B. Petty.

### Webworms Cause Some Damage in Missouri

COLUMBIA, MO. — In the southeastern counties, webworms are causing serious injury to soybeans, cotton, and some other crops. Although some instances of poor control have been reported, these insects usually are not hard to kill.

We are beginning to find some fall armyworm injury to late corn and grain sorghum. So far, this is showing up only in the southern portions of the state, and there is no way of knowing how serious the infestation may be this year.

**Adults of the northern corn rootworm are feeding on the silks of corn, and when the insects are present in large numbers, pollination will be lowered as a result. Incidentally, a soil insecticide applied as, or before the corn was planted would have prevented this injury—and at a cost less than that required to spray for the adults now.**

The second brood of corn borers is getting started in the southern counties, but it will probably be another couple of weeks before they are a problem in the central and northern counties.—Stirling Kyd and Geo. W. Thomas.

### Georgia Notes Moderate Armyworm Population

ATHENS, GA.—Fall armyworm in moderate to heavy infestations is on corn in Lanier, Lowndes, Cook, Colquitt and Mitchell Counties; corn earworm in light infestations on peanuts in Tift, Colquitt and Cook Counties.

Plum curculio second-generation larvae have begun to show up in harvested peaches here. One shed has reported a good many wormy peaches from one orchard. The Sullivan's Elberta harvest is nearly completed and Regular Elbertas were expected to move the week of July 28.

Boll weevil square counts were made in 34 fields in Middle and South Georgia with a range of 6 to 81% infestation and averaging 35% punctured squares.

Bollworm counts were made in 34 fields in Middle and South Georgia. The eggs ranged from 7 to 29 per 100 terminals, averaging 15 per 100 terminals. The larvae ranged from 1 to 42 per 100 terminals, averaging 8 per 100 terminals.

### Both Insects and Plant Diseases Reported in N. J.

NEW BRUNSWICK, N. J.—A few reports of second brood codling moth laarval activity but no general infestation July 22. Partly grown redbanded leaf rollers can be seen now. Apple (Green) aphids numerous inside of trees in southern counties. In some orchards, European red mites are numerous, although not generally so.

With brown rot of fruit a lot more serious than we have seen it for a number of years, the growers should shorten the period between application of fungicides. As fruit ripens, cut the interval to 5-7 days for sprays or dusts.

Bacterial fruit and leaf spot of tomatoes now reported from all southern counties. In some areas the disease quite severe on southern plants. With continued wet weather, more Buckeye rot and rhizotonia fruit rot. No spray recommendations for any of these troubles.

The first rust of economic importance since 1936-38 on commercial beans in southern counties, and in those previous years the disease did not appear until later in the fall.—Spencer H. Davis, Jr., Leland G. Merrill, Jr. and William E. Collins.



## SURVEY

(Continued from page 1)

port that at the present time there are over 200 highly toxic insecticides and pesticides in general use and their effect on wildlife is almost completely unknown. The committee urged prompt action in producing positive research results.

Although the bill authorizes funds for use by the Interior Department, the Department of Agriculture went on record favoring the bill. The two agencies will probably combine research efforts.

About three billion pounds of formulated pesticides valued at somewhat less than $500 million were used in this country last year. Supporters of the bill noted that sportsmen spend about three billion dollars and 567 million man-days per year enjoying the nation's wildlife resources.

### WALNUT PEST BULLETIN

BERKELEY, CAL. — The University of California has issued a bulletin on a technical study of insects and related pests attacking walnuts.

**Special Merchandising Section**

# Better Selling

**Marketing News and Features**

SHOP TALK

## OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Using credit for business operations can be quite profitable, either for a farm or for a business, pointed out Arthur H. Kantner, agricultural economist with the Federal Reserve Bank at Atlanta, in a talk recently. To stay debt-free may be to put on an economic strait jacket, he states aptly. This is how Mr. Kantner puts it:

Many farmers, I believe, are doing that. Yet when you loosen a farmer's economic strait jacket with some credit, clearly you must distinguish which of his credit needs you can justifiably meet—certainly not his long-term needs; perhaps some intermediate-term needs for equipment; but most readily his short-term needs. That is the area where you may wisely give your credit program careful formulation or an intensive review.

Many firms know that their credit programs are useful and essential for serving their patrons well. I think that businessmen extending credit best serve farmers when they follow proven credit principles—not slavishly, but in an enlightened and flexible way. This approach should be welcomed for its benefits. To me, credit principles are guides for action, not devices for killing opportunities. When businessmen use credit principles consistently, they actually unshackle their businesses—they generate income. Ignore the credit principles and you invite losses. This is a vital matter so let's consider it in a little more detail.

### Principles help you control credit.

At the outset let's clearly grasp the concept of credit—the basic credit transaction. Think of it this way: You have some resources—savings—funds—in excess of your immediate needs. Your neighbor could use a portion of your capital to help accumulate more resources for himself. He tells you his plans; you study him and his ideas and gauge the risks you foresee. You agree to let him use your capital for the purposes he has in mind. A time and form of repayment and a fee for your service are agreed upon. You let him have the funds.

Like any supplier of credit you would assess and limit the risks you feel you can take on the capital you lend. Here is where you rely on credit principles for guidance and for control:

### The borrower should be worthy—his integrity great.

Obvious, you say. Well, maybe so, but defaults by debtors are commonplace. Maybe creditors too often let the obvious go unnoticed. You agree, I'm sure, that a person with a reputation for failing to keep his word is not a favorable applicant for credit.

**A worthy borrower also has ability, skill, and experience. Logically, the wise use of funds requires the sound judgment that comes from experience.**

A man lacking farming experience, for example, would be a weak candidate for a farm loan. Creditors can offset insufficient experience to some extent, of course, when they supervise and guide their debtors.

Sometimes creditors substitute the borrower's equity or collateral, or that of co-signers, for experience—a practice that many make the loan "safe," but that won't necessarily make the loan "sound." That is, repayable from earnings. Hence it can be an unwise practice.

### The borrower should have the capacity to repay his loan.

You know that when a businessman obtains short-term credit for buying an inventory of raw materials he must show that he can make repayment from his business receipts—receipts from sales of finished goods or sales of stocks on hand or from other business operations. So, too, dealers and farm borrowers are obliged to repay from earnings on current operations.

Lenders, of course, realize that capacity to repay and capacity to earn are not synonymous. High earning capacity nullified by high indebtedness signifies low repayment capacity. To assure that a borrower has repayment capacity, a lender seeks the answers to several questions:

a. What will the proceeds of my loan be used for? Production, capital improvements, consumption, or speculation.

b. Will the credit I give this borrower help him increase his income by increasing his output or raising his efficiency?

These two questions are best answered when a borrower offers a well-conceived plan for using the funds. Through careful planning he analyzes his business resources and knows clearly the goals he wants to reach, how he will use his funds, the amount he needs, and his ability to repay a loan. Both borrower and lender benefit from such planning because it estabilshes a sound base for a loan. Invariably, you see, credit is a tool for accomplishing plans rather than a substitute for plans. Credit helps us to bring plans to fruition; it does not replace either the potential or the plans.

c. A third question about repayment capacity: What is the source of repayment?

**Three sources exist for most businesses — earnings, borrowings, and sale of assets. The proper source for production loans is the debtors' current gross incomes—or gross earnings.**

Sometimes borrowers fail to distinguish between personal loans and business loans; hence their repayments may slip. Farmers, especially, find the distinction difficult because the farm often is a home and way of life as well as a business. Their failure to restrain borrowing for consumption can drain funds from their

(Turn to **OVER THE COUNTER**, page 11)

# Is A Partner Necessary?

"There are times when I really wish I had a partner. Then I could get away more often and—."

The number of dealers who have made such a statement to their wives or friends at one time or another without a doubt runs into the thousands. The desire is also many times expressed when one looks at an enormous stack of work to be done and envisions how much easier it could be done by two men than one.

Partnership in business has definite advantages and it also has disadvantages. There is no general rule existant which declares that either outbalances the other. It is a strictly local and individual affair. But there are a number of established considerations that should be weighed in balance by the individual when the time arrives to make a decision on whether or not he really wants a partner. Here are the more important of these factors.

**Leisure time possibilities.** The man whose business provides him with little if any leisure time is surely impairing his future usefulness. The human body, no matter how strong or well constituted, simply must have relaxation from the regular routines. To many men working in a partnership offers a solution to this problem without loss of business due to absence. However, where one goes into a partnership with this as the sole motivating reason it is never enough in itself. As a contributing factor it is well worth weighing; as the sole determining reason it is seldom worthwhile. In the latter case the losses of a financial nature involved may be so great that it would have been better for one to simply close the store from to time in order to obtain such leisure.

Continuation of the business during times when one may be ill or for other reasons unable to take care of one's customers is another frequently mentioned reason for going into partnership. Where two men can work closely together it is undoubtedly a good one. The individual can never know when an adverse illness of long duration may strike him and ultimately result in the virtual disappearance of his business before he is ready to open up again. Such a thing will not likely happen where a partnership exists.

Financial responsibility of any proposed partner is a most essential consideration. No matter his skills, how good a personality he may have, how well liked he may be—without financial responsibility he can definitely drag the other downward.

**It should be remembered that in both law and general business, no partnership is any stronger than the weakest member of that partnership; not the healthiest financially. It is also well to remember that legally in a partnership each is responsible for the business liabilities of the other with respect to the partnership.**

Funds for expansion of one's business is often a reason for acquiring a partner. Years and years of actual experience has shown that where two partners contribute equal financial resources to any enterprise the chances for success are much greater than where there is an unequal contribution moneywise. The dealer should also consider the possibility that it may cost much less in the long run to borrow the needed money than to acquire it by taking on a partner to share in the profits of the business from then on out.

Handling more customers is too often a sole determining factor in creation of business partnerships. This, once again, may be good or bad. When weighing practical considerations involved it is a good idea to examine them solely from one's own individual standpoint, i.e., comparison of present earnings against those in such a partnership insofar as they affect oneself. Too often only the total earnings of the partners are considered; not of each individually under the partnership. Where it is logical that there will be an increase for each, however, the dealer should still weigh in balance the value of this particular increase against the obvious disadvantages of being in a partnership as compared with the present status.

Sharing of profits will be basic in any partnership. The dealer should also plan on what will happen when it will be necessary to share losses and what these could possibly be. Viewing the business under possible periods of adversity is also wise procedure; comparing what may be expected as revenue under individual operation with half of what may be expected under a partnership arrangement.

Acquiring added skills is always an excellent reason for securing a partner. If he is the right type of individual and the arrangement passes other tests this may be of great value.

**Temperament must always be considered. Judgment should never be based on casual observation but only after a careful private investigation on one's part. Men engaged in partnership who are opposites temperamentally can look forward to nothing but trouble and chaos and an eventual disruption of their arrangement.**

Present facilities must be examined with closest attention. Are they big enough for two or will much additional investment be needed? Perhaps it may even be necessary to move to a larger and more expensive location. If that is required will the resulting benefits justify the added cost of the move, purchase of additional equipment and expanded overhead?

Temporary expedients too often form the basis of partnership agreements; almost invariably result in a loss in more ways than one over an extended period of time. It's always good procedure, when considering partnership with anyone in any venture, to stop and ask this question: "Will it be a good deal a year from now?"

Social circles in which one moves and those in which the partner moves should also be considered. It's much better from a business standpoint to select a man who moves in entirely different social, professional and business circles than oneself. This is true not only from the standpoint of building the business but from another as well—two men who see each other day-in and day-out every hour of the day can get mighty tired of one another if this continues into social, fraternal, club and religious activities as well.

**Equal partner, senior or junior?**

(Turn to **PARTNER NECESSARY?** page 14)


# What's New...

## In Products, Services, Literature

**You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.**

### No. 6777—Peanut Movie

A 67-frame, sound color slide film, "More Profits from Peanuts," is available from the United States Gypsum Co. Available for showings on request, the film may be used either with a 33⅓ r.p.m. record or script. It explains the uses and advantages of gypsum in growing peanuts. Secure details by checking No. 6777 on the coupon and mailing it to Croplife.

### No. 6778—"Vapam" Folders

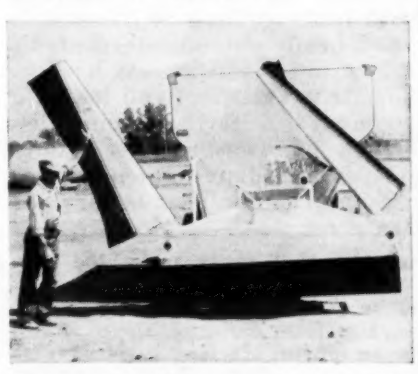
New literature—consisting of color folders—has been prepared by the Stauffer Chemical Co. describing the use of its product, "Vapam" to control weeds, fungi, nematodes, symphyla and certain soil insects in vegetables, flowers, shrubs and on turf. Directions for use are also available. Check No. 6778 on the coupon and mail it to secure details.

### No. 6776—Invert Emulsion Herbicide

A new weed and brush control chemical which limits the possibility of spray drift damage to crops has been placed on the market by the Dow Chemical Co. The compound is called "'Inverton 245," a 2,4,5-T material formulated in an invert emulsion. The invert emulsion is a dispersion of oil particles through water—the reverse of a standard spray emulsion. This form gives the spray mixture a thick, creamy consistency. The spray is applied in large particles which do not break into a mist. This cuts the possibility of spray drift to a new low point, it is claimed. In addition, the product is based on a non-volatile free acid, cutting the possibility of damage to adjacent crops from herbicide vapors. Inverton 245 is best suited to industrial applications such as spraying along roadsides or power line right of ways. At the present time the product is not suited for use in farm fields. Check No. 6776 on the coupon and mail it to Croplife to secure details.

### No. 6781—Fiber Glass Booms

New outer booms—or hoods—of fiber glass have been added as optional equipment on the Simonsen fertilizer spreader, it is announced by Simonsen Manufacturing Co. The new swing-out hoods are nearly 100 lb. lighter than those that have been standard on the fertilizer spreading unit, it is claimed. Fiber glass is not subject to corrision by fertilizer material or rusting from the weather.



Other advantages claimed for the fiber glass booms are that they require no painting and are easier to raise and lower because of their lighter weight. The fiber glass hoods are designed to spread fertilizer evenly over a 23 to 24-ft. width of soil with one central distributor fan. They are hinged to swing up behind the truck box when not spreading fertilizer, and rubber bumpers reduce flopping when they are down. No chains are needed to hold up the hoods and they require no internal bracing. Check No. 6781 on the coupon and mail it to secure details.

### No. 6780—Soil Fumigation Brochure

How soil fumigation can be used to rid soil of weed seeds, diseases and such soil pests as nematodes, is outlined in a new eight-page brochure published by the Stauffer Chemical Co. Profusely illustrated, the brochure describes the most effective methods of application which have been developed by the firm's field studies of the soil fumigant, "Vapam." Included are photographic descriptions of simple application techniques by rotary tiller, soil injection, overhead sprinkler irrigation, hose proportioner and basin flooding. The advantages of soil fumigation in nurseries, orchard sites, vegetable acreage and plant beds are discussed. Copies of the brochure are available without charge. Check No. 6780 on the coupon and mail it to Croplife and receive the brochure.

### No. 6773—Technical Data Sheet

Henry Bower Chemical Manufacturing Co. has developed a new copper compound trademarked "Dy-Q-Plex-1." Preliminary technical data is contained in a report available to agricultural chemical manufacturers and formulators. Secure the report by checking No. 6773 on the coupon and mailing it to Croplife.

### No. 7081—Grain, Seed Treater

A new probe type unit operating on compressed air for treating of grain and seed in the bag on farms has been announced by the OK Manufacturing Co. Called the "In-the-Bag" treater, the unit is recommended for wheat, barley, oats, legumes and other seeds and grains which may be treated with dry chemicals. Check No. 7081 on the coupon and mail it to this publication for details.

### No. 7050—Trigger Unit on Gross Bagger

A new trigger arrangement with automatic cut-off is said to permit faster bagging with a semi-automatic gross bagger by the Richardson Scale Co. For the company's G-17 gross bagger, the new trigger arrangement holds the gate open longer, and on most free-flowing materials the trigger can be set for the exact weight desired, a company spokesman said, eliminating all trimming. Check No. 7050 on the coupon and mail it to secure details.

### No. 6775—Liquid Fertilizer Cooler

A new member of the Barnard & Leas Chemical Manufacturing Co.'s plants division production line is its new liquid fertilizer cooler. This field-tested unit is designed for plants to produce 8-24-0, 7-21-0, 11-22-0 and other analyses of "hot" fluid fertilizers. This new patented cooler will maintain a reaction temperature, dependent on ambient conditions, of 220° F. at 160° F. (batch temperature) while using recycle hook-up. Flow rates as high as 200 gallons per minute have been attained. The cooler is factory assembled, enclosed in a weather-proof housing, pre-piped and ready for mounting on foundation. Check No. 6775 on the coupon and mail it to secure details.


### No. 7052—Pneumatic Vibrator

Details on a patented one-piece bin and hopper pneumatic vibrator have been announced by the National Air Vibrator Co. The manufacturer states that the unit uses body assembly bolts, has no housing springs and the pistons are not grooved to collect scale. Check No. 7052 on the coupon and mail it to secure details.

### No. 7068—Sewing Machine Head

A portable traveling head unit for closing bags while they are on the

### Also Available

**The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.**

### No. 7043—Bulk Storage Brochure

A new descriptive brochure entitled "Economical Bulk Storage With Steel" has been prepared by the Sapulpa Tank Co. The two-color brochure has installation pictures and factual data pertaining to suggested tank sizes for various storage capacities. Check No. 7043 on the coupon and mail it to this publication.

**Send me information on the items marked:**

- ☐ No. 6769—Pellet Booklet
- ☐ No. 6770—Catalog
- ☐ No. 6771—Grain Protectant
- ☐ No. 6772—Soil Booklet
- ☐ No. 6773—Data Sheet
- ☐ No. 6774—Fertilizer Body
- ☐ No. 6775—Liquid Cooler
- ☐ No. 6776—Herbicide
- ☐ No. 6777—Peanut Movie
- ☐ No. 6778—"Vapam" Folders
- ☐ No. 6779—Source Book
- ☐ No. 6780—Soil Fumigation
- ☐ No. 6781—Fiber Glass Booms
- ☐ No. 7043—Storage Brochure
- ☐ No. 7050—Trigger Unit
- ☐ No. 7051—Tramrail Tractor
- ☐ No. 7052—Pneumatic Vibrator
- ☐ No. 7068—Sewing Head
- ☐ No. 7075—Research Chemicals
- ☐ No. 7077—Fly Spray
- ☐ No. 7081—Grain Treater

(PLEASE PRINT OR TYPE)

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COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

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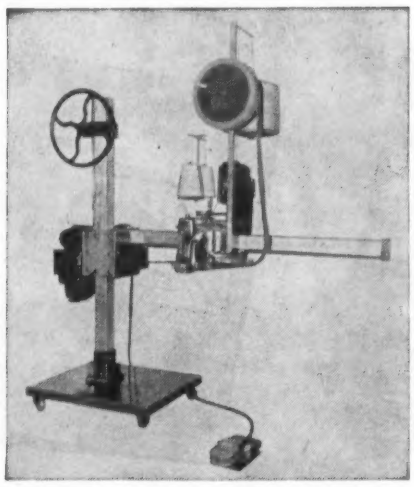


platform scale has been introduced by the Minneapolis Sewing Machine Co. It is claimed that one operator can fill, weigh and sew without moving the bag or changing his position. Forty inches of horizontal travel is provided. Over-all length of the standard unit is 6 ft., 6 in., the height is 6 ft. and the extended height with tape attachment is 7 ft. Check No. 7068 on the coupon and mail it to secure details.

## No. 6770—Catalog

The RegO Division of the Bastian-Blessing Co. has announced the publication of its new A-100 catalog, covering the line of "RegO" anhydrous ammonia control equipment. Detailed descriptions of multi-purpose valves, globe and angle valves, check valves, relief valves, etc. are presented in the 28-page catalog. Full ordering information is included with each item. Check No. 6770 on the coupon and mail it to secure the catalog.

## No. 7051—Tramrail Tractor

A new motor-powered tractor for use on overhead tramrail materials handling systems has been developed by the Cleveland Tramrail Division of the Cleveland Crane & Engineering Co. The unit is driven by two 5-in. diameter steel rollers under spring pressure against the bottom of the track. The tractor will develop a drawbar pull of 300 lb. Check No. 7051 on the coupon and mail it to secure details.

## No. 6772—Soil Fumigant Booklet

A new booklet entitled "Pestmaster Soil Fumigant-1 for Control of Imported Fire Ants and Cut-Ants" is available from the Michigan Chemical Corp. Directions are given for the use of the "Pestmaster" product for the control of imported fire ants. Details of the damage being caused to health, wild game and the over-all economy by the ants are explained. Check No. 6772 on the coupon and mail it to Croplife. Please print or type name and address.

## No. 6774—Fertilizer Spreader Body

The Baughman Manufacturing Co.'s "K-5" lime and fertilizer spreader body now features a lubrication-impregnated drag chain discharge designed to resist corrosion and virtually eliminate "freezing" of the body's automatic discharge system. The firm employs a special process to saturate the heavy 40,000-lb. (total strength) test malleable block chain discharge with a permanent lubricating agent. Check No. 6774 on the coupon and mail it to Croplife to secure full details.

## No. 6769—Pellet Booklet

Chemical Engineering Service, Division of Manitowoc Shipbuilding, Inc., has published a booklet on pelletizing. This booklet is full of useful information for the guidance of those desiring to pelletize, as well as full diagrams of the various types of installations possible. It explains the important factors to study before proceeding to purchase. The booklet is written and illustrated in simple terms and contains 21 pages of useful information. Check No. 6769 on the coupon and mail it to secure the booklet.

## No. 7077—Fly Spray

Pratt Laboratories, Inc., has announced the introduction of a new fly spray called "Fly Bomb." The product, which is now available to dealers, contains a repelling agent called "Tabutrex." The product can be used safely around the home, it is claimed, and it comes in 12-oz. aerosol container. Check No. 7077 on the coupon and mail it to secure details. Please print or type name and address.

## No. 7075—Research Chemicals

A 42-page booklet entitled, "Lookin' for Somethin'?" contains a list of research chemicals from the Dow Chemical Co. A wide variety of materials — currently available in limited quantities—are listed. Check No. 7075 on the coupon and mail it to secure the booklet.

## No. 6771—Grain Protectant

A new protectant for corn, wheat and other grains in storage has been developed by the Miller Chemical & Fertilizer Corp. Malathion in a dust or spray is used in the product to protect grains against insects. The dust is formulated on a wheat flour base and the spray concentrate can be mixed with water. The liquid spray can also be used as a residual treatment in grain bins, on walls and other places. Check No. 6771 on the coupon and mail it to secure details.

## No. 6779—Source Book

A source book designed to stimulate new independent research efforts by chemists in expanding the potential uses for calcium cyanamide has been published by the manufacturer's chemicals department, American Cyanamid Co. The product, aside from its original use in fertilizers, has application in insecticides and in other industries. Check No. 6779 on the coupon and mail it to secure details.

## May Super Output Gains from Last Year

WASHINGTON — May production of superphosphate and other phosphatic fertilizers totaled 232,495 short tons, compared with 213,406 short tons in May, 1957, the Bureau of the Census has reported. May shipments amounted to 170,781 short tons, down from 175,150 short tons in May, 1957.

Stocks on hand at the end of last May totaled 267,178 short tons, an increase from 208,895 short tons on the same date a year earlier. The May, 1958 production included 126,838 short tons of normal and enriched, 78,093 short tons of concentrated, 15,128 short tons of ammonium phosphates and 12,436 short tons of other phosphatic fertilizers.

## Florida Mixed Sales Approach 1.3 Million Tons

TALLAHASSEE, FLA. — Sales of mixed fertilizer in Florida during the fiscal year ended last June 30 totaled 1,298,945 tons, according to the Florida Department of Agriculture. Leading grades were 4-7-5, 114,495 tons; 6-6-6, 91,904 tons; 4-8-8, 73,843 tons; 6-4-8, 54,871 tons, and 8-4-8, 53,001 tons.

Sales of materials during the fiscal year amounted to 625,242 tons, a figure which includes 255,542 tons of hi-calcium limetsone and 207,141 tons of dolomite.

# OVER THE COUNTER

(Continued from page 9)

businesses and reduce their capacity to repay.

d. A fourth question: Will the terms of my credit contract strengthen the borrower's capacity to repay?

When you make the loan proceeds available as needed and add justifiable advances as unforeseen needs arise, you assure ultimate repayment. Equally important is setting due dates for payments at times when your customer gets his income. A willingness to postpone payments when an emergency or unavoidable delay occurs also is helpful. Finally, providing for instalment payments may strengthen your customer's capacity to repay.

e. Fifth: Does this customer owe so many creditors that conflicts and uncertainties about his debts and their repayment are likely?

**A borrower's ability to repay a loan, of course, has too many facets to treat it in an offhand manner. I believe, therefore, that creditors are well served when they stress the principle of repayment capacity —but with flexibility rather than rigidity.**

### Credit should help a borrower make financial progress.

Ideally used, credit helps a borrower increase his financial worth or equity. Either he obtains more physical assets or he gets earnings that increase his liquid assets. When a borrower's equity diminishes over time, his creditors may advise a change in his business operations or his financial plans or both.

**Lenders know that owner equity has a significant role in all credit transactions. When an owner's equity is large, his financial strength is great and he can stand certain losses—he can accept sizable risks without fearing that losses will force him out of business. He may, for example, experiment with new enterprises, or he may borrow large sums.**

The principle of financial strength and progress, however, can be flexibly applied. Equity may be low, but economic resources sufficient for development and the capacity of local management may be great. Since some creditors can accept greater risks than others, they may finance persons with capacity but little or no equity.

### A borrower should accept some risk in the credit transaction.

He should willingly offer his equity or assets as security for his borrowings. Most creditors, of course, depend upon a borrower's integrity, ability, and capacity for repayment as the first line of security for credit advances. This is true for credit advanced on open account. But creditors often seek a margin of safety through subordinate or secondary or collateral security. Usually such security is property, either personal or real.

Rarely do creditors seek security as a weapon for putting firms out of business. Rather, they seek it to protect the borrower's business from excessive debt or loose credit practices and, therefore, safeguard their loans.

**These are the credit principles as I see them. My review of the principles should not cause us to have a negative or pessimistic point of view. With a clear concept of credit and an understanding of its limitations, we can use it more effectively.**

Credit fortunately is typically used in a positive role. You apply the credit principles in varying degrees, of course, depending on the type of credit involved, the risk you can take, the legal and moral restrictions you live by, and other factors.

Some creditors can relax the principles more than others because they can spread or counterbalance their risks. They may serve a diversified economy or a widespread geographic area or a variety of customers. Sometimes they can assume more risk because their equities are large. Sometimes they can closely supervise the management of the funds advanced.

### Farmers' Concepts of Credit

As you think about applying these credit principles in actual situations, note this: Many more businessmen now believe that credit can be effectively used to build business or cut costs. Farmers, for example, now think less frequently in terms of "furnish credit" and a dreaded farm mortgage, and more frequently in terms of consumer credit, instalment credit, operating credit, working capital, amortized loans, and the like. They have become conditioned to credit techniques that were strange to them only a decade ago.

Farmers, therefore, probably accept intelligent discussion of their capital needs and appropriate financing for meeting needs. Emotional or personalized comment on credit is less frequent. This probably also is true of many merchants serving farmers.

**I think this changed attitude is significant. Now you can talk rationally or reasonably with your patrons about credit; about the terms they can live with and how they may best handle their needs—perhaps through a bank or other financing agency. This should encourage you who will supply more and more credit for farm production.**

Also, since farmers have a more enlightened attitude toward credit, your sales forces can talk more straightforwardly about credit problems.

## Plans Announced for Canadian Agricultural Chemicals Meeting

WINNIPEG — Plans for the first western Canada conference on agricultural chemicals have been announced here by Paul E. Redman, National Grain Co., Ltd., conference chairman. Under the auspices of Canadian Agricultural Chemicals Assn., the conference will run three days, Sept. 15-17, at the Fort Garry Hotel, Winnipeg.

"The Western Farmer's Dilemma" will be the subject of an address by Prof. Clay Gilson of the University of Manitoba Sept. 16. Other sessions on the same day will include a symposium on agricultural chemicals and a panel of a manufacturer, distributor and extension worker on problems of the industry as seen from various viewpoints.

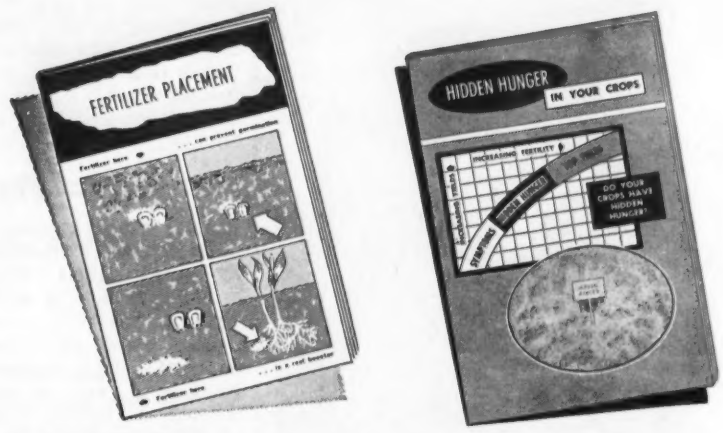
"The Petro-Chemical Industry in Western Canada" and "New and Proven Sales and Advertising Techniques Applicable to Agricultural Chemicals" will be featured Sept. 17.

C. L. Shuttleworth, Manitoba's minister of agriculture, will present the welcome address. More than 100 delegates from Canada, the United States and England are expected.

**NEW DISTRIBUTOR**

SALINAS, CAL. — Agricultural chemicals and other farm equipment are now being distributed by the newly formed Arrow Distributing Co. in Salinas. Principals of the new company are George R. Musante and Leonard E. Cling of Salinas, and Ralph R. Coelho of Fresno.


Amchem Products, Inc., Ambler, Pa., has for its dealers a selection of posters, banners, and brochures describing the firm's line of weed control chemicals. Above is a reproduction of a large window poster measuring 23″ x 32″, printed in yellow, red, and black. This poster describes weeds controlled by various herbicidal products. The firm's former name, American Chemical Paint Co., appearing on the illustration, has been changed recently as noted above.

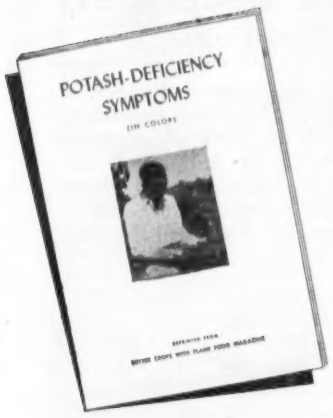



The American Potash Institute, Washington, D.C., has prepared a series of booklets covering a wide range of soil fertility. The four shown above deal with fertilizer placement, "hidden hunger" in crops, potash-deficiency symptoms, and the role of potash in agriculture. These booklets, useful as kits of four, or as separate handbooks, are available to the fertilizer industry from the Institute, 1102 15th St., N.W., Washington 6, D.C. The booklet on placement results fro length, dis the econo color, sho in 25 imp length, gi of potash,

SUPPLIERS OFF
for
YEAR-AROUND




A broad assortment of folders, store banners and window displays have been produced by Velsicol Chemical Corp., Chicago, for the promotion of chlordane and heptachlor. Above, at left, are fronts of 12 folders available to Velsicol dealers. Printed in color, the folders are suitable for mailing in regular envelopes, or distributed to customers in stores. Directly above are some brightly-colored wall charts illustrating insects and damage they do. Some are printed in fluorescent ink for maximum attractiveness. Small packaged goods make fine off-season sale items. The chlordane banner at left, in color, is 6′ long and dominates an area in the store where such products are sold.

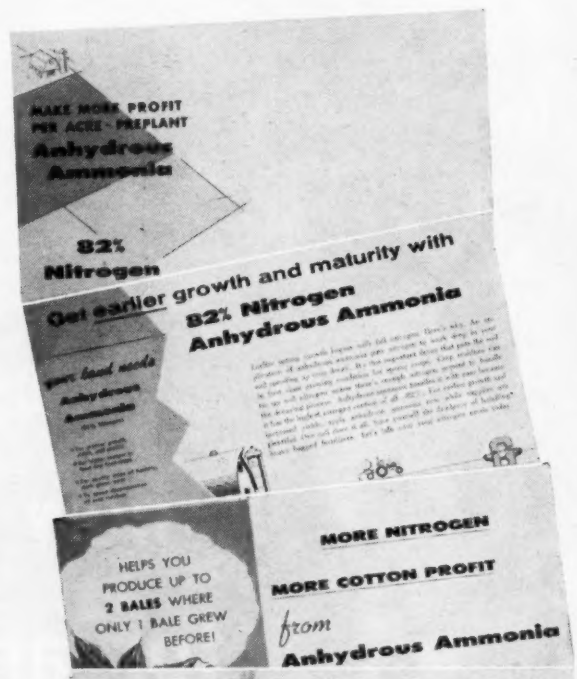


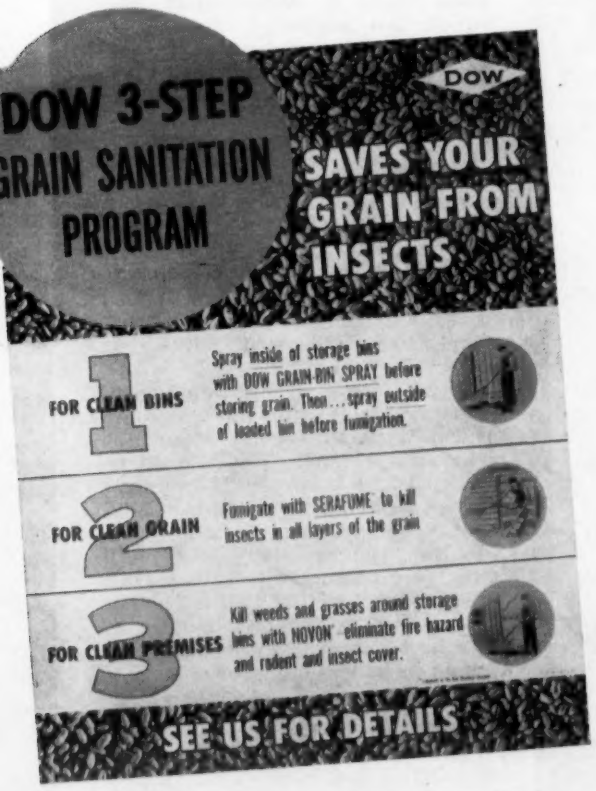


placement is 40 pages in length, tells how to get best results from application. The second book, 48 pages in length, discusses soil testing, adequate fertilization, and the economics involved. The third book, 52 pages in color, shows customers what potash hunger looks like in 25 important crops; and the last one, 30 pages in length, gives farm customers an idea of the importance of potash, its history, and the necessity for its use.

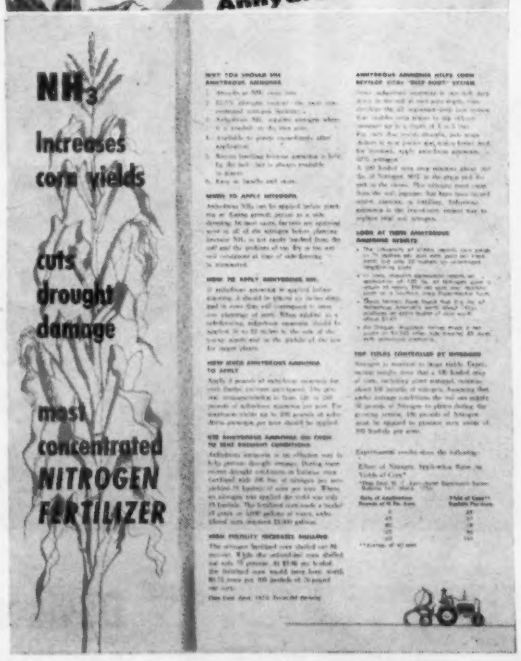

# OFFER AIDS
# or
# UND SALES

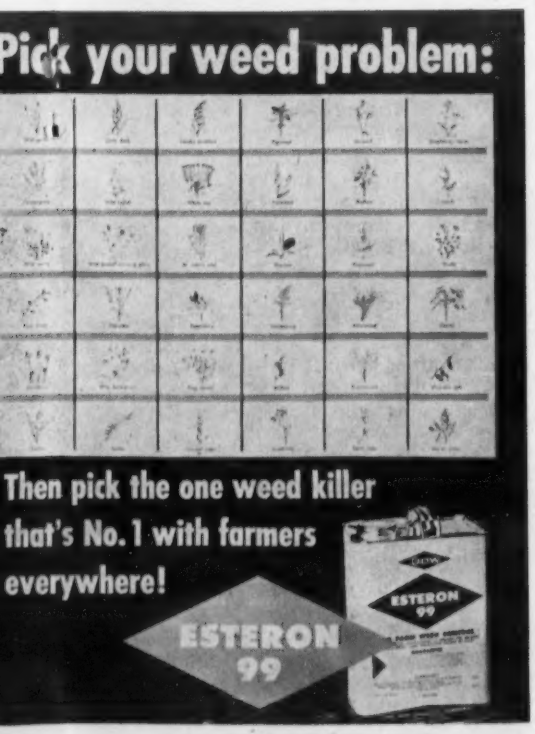
Grace Chemical Co., Memphis, Tenn., has developed an ammonia calculator in the form of a circular slide rule, for determining the number of tons in a tank under various conditions of temperature and pressure. The company also makes available to its dealers store banners, mailing pieces, window displays, and other sales helps for the merchandising of anhydrous ammonia. On the right are mailing pieces used for selling nitrogen. The top three are cards measuring 5½ x 8", and the lower folds into a piece 3¾ x 8½". All are printed in color. At the bottom is a card urging the farmer to buy and apply his fertilizer ahead of time, in the off-season, to get the jump on his spring work.



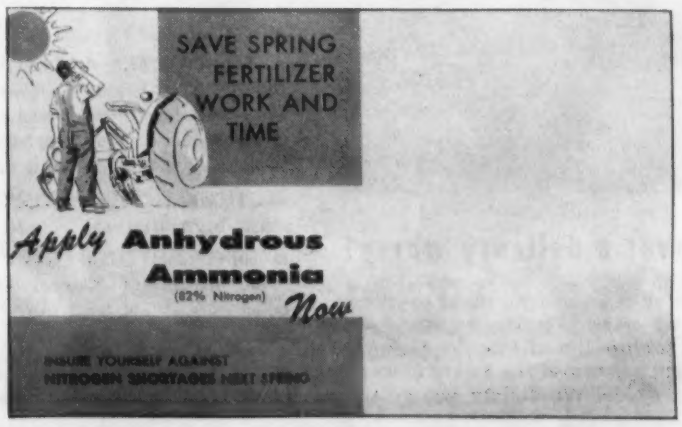








Dow Chemical Co., Midland, Mich., has produced a number of attractive and informative pieces of literature and store displays designed to help sell herbicides and soil insecticides. Above, left, is an attractive counter display, over 2' in height, printed in eye-catching color, on stiff cardboard that will stand alone. At the right is the cover of a booklet, 5½ x 7½" in size, containing 36 pages in color. Its subject matter describes the activities of soil insects, lists their types, and makes recommendations for control. Another booklet, containing nearly 100 pages, is a compendium on weeds, with illustrations and descriptions. This booklet also contains information on various products for feed control. At the left is a poster illustrating 36 weeds with their names, for the dealer to use.



## Survey for Soybean Cyst Nematode in New Jersey

TRENTON, N. J.—For the second year, an extensive survey of New Jersey is being made to determine whether or not the soybean cyst nematode is present in the state.

Conducted by the Division of Plant Industry, State Department of Agriculture, the survey will cover all major soybean production areas of New Jersey. In the 1957 operation, almost 18,000 acres were inspected and no trace of the pest was found.

Continuing vigilance is considered necessary because of the damage potential of the pest.

In areas where it has become established, the nematode feeds on the roots of soybeans and some other related plants, causing them to become yellow and stunted. Yields are reduced and severe infestations may destroy the crop. With approximately 50,000 acres of soybeans grown in New Jersey each year, the nematode could become a serious threat if it appeared here.

The soybean cyst nematode was first discovered in North Carolina in 1954, and has since spread to several other southern states. Some new areas of infestation were discovered in the South last year, as a result of surveys similar to the one being conducted in New Jersey.





## Manganese Deficiency Found in Soybeans

URBANA, ILL. — Manganese-deficient soybeans were found for the first time on several farms in Mason County recently, according to University of Illinois soil chemists. Soybean fields showing this deficiency have been in depressional areas of dark soils with a pH of 6.5 or higher.

Joe Fagetti, Mason County farm adviser, called on University of Illinois agronomists, who inspected the fields and sprayed some of the plants with a manganese solution. Inspections a week later showed that the treated plants had begun to look better.

This is not the first time a manganese deficiency has shown up in Illinois soybeans. In 1956 this condition was found in Kankakee, Will and Iroquois counties.

## PARTNER NECESSARY?

(Continued from page 9)

**This can be of greatest importance in the future. The best procedure is always on an equal partnership basis. However if a "junior" arrangement is made some provision for equal partnership in the future should also be discussed at the start.**

Age and experience also deserve consideration. When there is too much out-of-balance thereof between two men troubles are apt to develop in the immediate future. Perhaps in the personality being considered this may make little difference. Nevertheless, it should be given close examination and study.

Why does he want the partnership? Each individual knows his own reasons for the proposed venture but it will also pay to find out why it appears to be a good idea to the other fellow. If his reasons are based on something which cannot materialize then trouble for the partnership is a certainity in the future.

Decision sharing becomes a must in successful operation of any kind of a partnership. If a dealer has been on his own for a long time it may not come easy to work with someone else on procedures in the future. How readily he is willing to give up his own autonomy must be judged when he starts consideration of any type of partnership.

**Who will be the boss when it comes to making basic decisions or when there is disagreement between the partners? Such procedure must be set down at the beginning. More important each man must make up his own mind that he will adhere to the procedure when and if the time comes.**

Sharing of liabilities should never be overlooked. The dealer must always keep in mind that he must share the other fellow's liabilities as well as his assets. This pertains to much more than money, as mentioned above, and includes personalities. mannerisms, skills and abilities as well.

Tax advantages or disadvantages of a partnership as compared with one's present situation should always be weighed in balance. They should be discussed with a lawyer. It is a complicated procedure needing the judgment of an experienced tax lawyer.

Is the "vo'ume" there now? Will it be there continuously? It's a good idea to keep in mind that a partner will need a little more than twice what he had previously just to be as well off as he was on his own!

## Fertilizer Sales Drop In South Carolina

CLEMSON, S. C.—Fertilizer sales in South Carolina during the fiscal year ended last June 30 totaled 732,607 tons, a decline of 10.4 from 817,500 tons the previous fiscal year.

Drops were registered in mixed grades, from 565,959 tons in 1956-57 to 525,460 tons in 1957-58; nitrogenous materials, from 203,911 to 171,109; phosphatic materials, from 22,846 to 16,501; potassic materials, from 20,813 to 16,121, and landplaster, from 3,971 to 3,416.

Leading grades in 1957-58 were 3-9-9 with 129,099 tons, 4-12-12 with 95,026 tons, 4-10-6 with 85,917 tons, 3-12-12 with 56,258 tons, 5-10-5 with 33,946 tons and 4-8-12 with 33,816 tons.

### JOINS VERMONT STAFF

BURLINGTON, VT. — Dr. Richmond J. Bartlett, 30, has joined the faculty of the College of Agriculture and Home Economics of the University of Vermont as an assistant professor of agronomy. Dr. Bartlett also becomes an assistant agronomist in the University agricultural experiment station.

# New England News Notes

By GUY LIVINGSTON
Croplife Special Correspondent

Automation is being seen here as the greatest change in farming in New England in the last 25 years. Introduction of labor saving machinery has continued at a rapid pace in this region, and in many localities you have to hunt to find a horse! Field work is done by power; gutter cleaners take the manure and drop it directly into manure spreaders. Many farmers have loaders on their tractors and lift the dressing by power. Hay is handled in bales and lifted by elevators into barns.

The automation has resulted in improvement of crops and the improvement of pastures. Farmers are raising better hay and silage. The Green Pastures Program has contributed a great deal. A quarter of a century ago, pastures were not very good in New England except for a brief spell in the spring. Now, pastures are good right through the season.

### Insecticides Important

Another factor in the improvement of crops and a big factor is the development of chemical spraying against crop pests. Insecticides, herbicides, rodenticides and fungicides have become an important part of farming life in the six state area. Bigger crops are being grown by fewer farmers on less land and livestock is more productive through the use of these chemical compounds.

The gypsy moth eradicating campaign now being conducted by the federal government with state cooperation is a case in point. Two decisions were made in waging the campaign. First, it was decided that the gypsy moth could be eradicated rather than controlled. Second, it was decided that DDT spraying of infested areas would be the most effective treatment.

While the gypsy moth is not native to this country or region, it was in New England that the gypsy moth began in Medford, when two experimenters seeking to spin silk allowed gypsy moths to escape. Entomologists have pointed out that there are no widespread natural controls—predatory insects, diseases or resistant plants. Insecticides are the only weapon, if an immediate eradication program is desired, they contend.

Both decisions have been argued by entomologists and scientists, conservationists and others concerned in the gypsy moth program. Past eradication programs have been successful, but some experts doubt if the gypsy moth can be completely wiped out.

**On the agricultural front, use of insecticides for pests affecting tomatoes and snap beans resulted in a phenomenal rise, around 15%, in production of both these vegetables.**

An infestation of European earwigs is reported in various parts of Massachusetts. The earwigs are being transported in boxes of produce, by campers, picnic parties and vacationists. Serious infestations of the pest were noted by Ellsworth H. Wheeler, extension entomologist at the University of Massachusetts.

"An extremely annoying pest, they resemble roaches in their habits, general color and movements, he said. Earwigs are readily distinguished from roaches by the conspicuous pair of 'forceps' carried on their rear end," Dr. Wheeler said.

He advocates control by chlordane or DDT sprayed or dusted onto surfaces where they congregate or hide. Places to treat liberally are the surface of the soil and all possible hiding places such as under plants and shrubbery, boxes, boards or baskets left on the ground, under and along foundations, walls, steps, porches, or any place where there is moisture or seclusion, he said.

### Strawberry Meeting Topics

At the annual state strawberry twilight meeting at the University of Massachusetts, runner suppression with maleic hydrazide, use of plastic mulch and variety selection and soil treatments for red stele disease control were discussed.

Virus free plots of leading varieties were shown plus fruiting plots of new varieties. A question and answer period on strawberry problems highlighted the session. Soil fumigation was covered by John S. Bailey, horticulture department; Ellsworth H. Wheeler and C. J. Gilgut, both of the department of entomology and plant pathology. Insect problems and the control of fruit rots came in for consisderable discussion.

### Marketing Project Started

The Massachusetts Agricultural Extension Service has started a new program to help Massachusetts food marketing firms do a better job. The marketing firms project will help provide food marketing firms with technical and economic information and keep them up-to-date on research results that can be applied to the firms' advantage. The staff is composed of five specialists, a food engineer, food technologist, economist, food marketing specialist and a horticulturist.

The team is responsible for conducting an educational program that will effectively meet the needs of the food distribution industry in Massachusetts. Marketing of food is big business in Massacshusetts where the efforts of 21,000 firms and 147,000 people are required to provide marketing services in the Massachusetts food industry.

Apple growers in New England report that dry weather in the spring of 1957 made it an easy year for scab control and most growers had little or no scab on fruit at harvest. Continued dry weather in the summer and fall did no favor buildup of leaf scab so that for 1958, the carryover is light.

New Hampshire farmers planted 185 acres this year to produce up to 3,700 tons of pickling cucumbers.

### Dr. D. H. Sieling Appointed

Dr. Dale H. Sieling, dean of the college of agriculture and director of the agricultural experiment station at the University of Massachusetts, has been appointed director of the cooperative extension service, J. Paul Mather, president, announced. The appointment came as a result of recent action by the board of trustees and approval of Ezra Taft Benson, secretary of agriculture. He replaces James W. Dayton who retired.

"The appointment of Dr. Sieling was made primarily to unify administration and strengthen the program in agriculture to better serve the people of the Commonwealth," President Mather said.


Doing Business With

# Oscar & Pat


By AL. P. NELSON
Croplife Feature Writer

When pudgy, balding Oscar Schoenfeld came to work that midsummer morning, his eyes darted around the office and sales room the moment he entered the door. He was always the first one to work every day and he took a fierce pride in this. And he always looked about the office and show room to see if his partner, Pat Mc Gillicuddy, who liked to work nights and sleep late mornings, had been up to any display shenanigans.

It was always a mystery to Oscar why Pat couldn't work exact hours like he did. A man should be able to get his day's work done from 7 a.m. until 5:30 p.m. with an hour out for lunch. Oscar's Teutonic mind liked such regularity, just as he liked to scrutinize each bill twice and to never miss on a discount.

"Ach, look at that mess!" he said as he sighted Pat's desk. There was a note in his voice like that of a mother-in-law speaking of an unloved son-in-law.

Pat's desk was not exactly clean. In fact it had a big paste pot on it, with the top off and the paste hardening. It had cut strips of paper strewn all over it, and some on the floor. The wastebasket was overflowing with crumpled newspaper and magazine clippings.

But on top the desk was a large, imposing looking scrapbook.

Clucking his tongue like an old lady gossip, Oscar hung up his four-year-old yellowed sailor straw hat. With an expression of distaste he pulled out a long narrow brush from the paste pot, laid it on a newspaper on Pat's desk; then he screwed the cover on the hardening paste.

He saw the price on the paste jar —$1.65. "Ach du lieber, how he spendts money, just like it grows on cornstalks. And then yet he leaves the cover off once. No wonder he neffer has any money. No wonder I haf to watch the nickels aroundt here."

At this moment, Tillie Mason, the plump, ulcerish bookkeeper came in. She was clad in a checkered skirt and a sleeveless white blouse.

"Look!" Oscar thundered. "Look what a mess he made of his desk. And he leaves the cover off the paste jar, too. The old mucilage is not goot enough. He has to buy some new paste."

"Oh, Oscar, don't scold so early in the morning," begged Tillie. "I can't stand it."

**Tillie was vexed because her long time swain, Dave Schuster had almost been on the verge of proposing after a four-year courtship, but then suddenly changed his mind. One of these days, she thought, if he doesn't propose I'll say yes to that old farmer bachelor who's been asking me.**

Oscar thumbed through the scrapbook contemptuously. "Look at the schtuff he's got in here! Just clippings from newspapers and magazines. Ach, here is one that says a farmer in Wisconsin uses 250 pounds of ammonium nitrate on each acre of pasture land and raises enough forage and pasture for his 100 cows. And he don't buy them any extra feedt except some ear corn and a little bran. Ach, what foolishness is that?"

"He must be a thrifty farmer," offered Tillie.

"But it don't sell any feedt or fertilizer for us much," Oscar said. "He raises most of his own. All he buys is a little of that ammonium nitrate. If Pat wants to have a scrapbook like a school kit why don't he clip and paste articles where farmers use all kinds of feedt and fertilizer? Such foolishness he thinks of."

"Ah, I see you are looking at my scrapbook," said someone.

Oscar turned to see a tired looking Pat walking to his desk.

"You left the cover off that expensive paste pot," Oscar said sharply. "And your desk is a mess."

**"I worked until 11 o'clock, and then suddenly I got tired, quit and went home," Pat said. "I would have slept later this morning, but I'm anxioius to get out in the territory with that book and sell fertilizer."**

"Fertilizer!" Oscar said sharply. "That book won't help you sell fertilizer. One article in there, ach, it tells about a man who only uses 250 lb. ammonuium nitrate on hay land and pastures and raises enough to feed over 100 cows. And he don't buy no feedt. Only some bran and he uses his own corn."

Pat's eyes lighted. "Oh, that must be that Price County farmer in Wisconsin who has a big dairy herd. Why, that's a wonderful clipping, Oscar, I expect to sell a lot of fertilizer through it."

"Huh," Oscar said, "farmers have no time to read now."

"I'm going to sell a lot of fall applied fertilizer with that book," Pat said, "both for pasture fertilizer and also for fall plowdown."

"It had better be for cash," Oscar snapped. "You ain't collected all last May's bills yet."

**Pat ignored the jibe. "Oscar, if farmers fertilize their pastures and hay land after each cutting, why they can grow a lot more forage. One article tells of a fellow who put 250 lb. of ammonium nitrate on his pasture in September and had nice green pasture half way through November. He also uses lots of lime and phosphorus in his barn gutters and spreads it on the pasture land. Then when the rain comes — wow, does the grass grow."**

"Ach, we could sell more fertilizer to corn farmers," Oscar growled. "Pasture, phooey!"

"Everybody else is pushing fertilizer for plowdown for corn land," Pat said. "I'm going to push fertilizer for pasture and hay land. Then I'll have a different story. Farmers will listen to me. Mine won't be the same presentation that they hear time and again. After I sell them ammonium nitrate for pastures, I'll ask about plowdown fertilizer, too."

"You will spendt so much time showing farmers that scrapbook, you won't have time to sell nottink," intoned Oscar crabbedly.

"Why do you always have to try something new?"

Pat sighed patiently. "Because this is a day and age when farmers want facts, when you've got to use every angle you can think of to sell. These clipped articles give statistics and actual cases. This scrapbook will back up what I say. You wait and see."

"I will give you a scrapbook idea," Oscar said testily. "In it we will post the names of all the farmers that owe us money longer than 60 days. We will call it our Deadbeat Book. Then you can take it aroundt to those fellows and ask them how their name looks in it. They don't like it and we don't either. Ach, so then they can pay up, and we scratch their name and both of us will be happy, nein?"

Pat angrily closed the scrapbook and tucked it under his arm. "Begorra, I give up. Tillie, I'll be over in the restaurant getting a cup of coffee if anyone calls me. Then I'm going out to sell." He turned to Oscar. "As for you, I hope your shoelaces break. I also hope eight letters come in with postage due, and that you skip five discounts. You deserve a day like that."

## FARM SERVICE DATA

**Extension Station Reports**

Moderate doses of nitrogen fertilizer can sometimes double yields on land raising corn for the third straight year, the Minnesota Southern School of Agriculture and experiment station at Waseca reports.

A. R. Schmid, University of Minnesota agronomist, drew that conclusion from Waseca station experiments.

On third-year corn in a field that raised grain in 1954, Mr. Schmid said researchers boosted yields from 40.8 bu. per acre on a "no-nitrogen" plot to 89.5 bu. where they added 80 lb. nitrogen per acre. On corn following grass, the 80-lb. nitrogen rate raised yields from 46.6 to 99.8 bu. per acre.

The land had received plenty of phosphate and potash fertilizer, regardless of whether nitrogen was used.

**Mr. Schmid said the biggest yields, both with and without extra nitrogen, was in third-year corn following alfalfa. Here, the no-nitrogen plots yielded 52.7 bu. per acre and the 80-lb. nitrogen rate kicked it up to 112.6 bu. This increase was probably due to a combination of the nitrogen and the improved physical structure where the field had been in alfalfa, Mr. Schmid stated.**

Contrary to what many people think, it still makes sense to fertilize corn land that produces bumper yields without extra plant food, it was reported. A field produced 138 bu. of corn per acre where no fertilizer was used.

But on a different part of the same field, 80 lb. nitrogen and 80 lb. phosphate per acre boosted yields by 21 bu., for a net gain in profit of $13 per acre. This was land in corn for the second straight year. For the 25 years before being plowed in 1955, it was permanent pasture.

★

Here are two ways farmers can help new meadow seedings make thick, fast growth after the small grain harvest:

1. All the straw from the grain fields after the crop is combined should be clipped.

2. The new seeding should get a top-dressing of phosphate-potash fertilizer, unless it had a full feed of nutrients before planting. The top-dressing will give the small legume plants the nutrients they need to develop strong roots and healthy top-growth.

**Wisconsin research indicates that new stands of alfalfa or red clover were greatly improved by clipping oats stubble after the grain harvest. The Wisconsin agronomists report that red clover was benefited by leaving a small amount of mulch to conserve soil moisture. Red clover, they say, is less tolerant of drouth than is alfalfa.**

From Ohio comes the report that hay yields were boosted about three-quarters of a ton per acre in a three-year test when the field was mowed once and all the wheat straw was removed. Mowing the field a second time in late August and taking off all the straw resulted in an increase of 1,810 pounds.

One important advantage of removing straw is that it does away with the danger from fungus and molds encouraged by dampness under straw. Fungus and molds can sometimes destroy a new seeding.

★

Alfalfa and alfalfa-grass hay stands should have ample supplies of phosphorus and potash if good second and third cuttings are to be obtained, according to J. L. Morrow, Purdue University extension agronomist.

Many Indiana soils have enough of these elements to produce a good first cutting, but not enough to produce good yields in the later cuttings, he points out.

**For each three tons of hay produced in the first cutting a top-dressing of from 175 to 225 lb. of 60% muriate of potash should be applied. This is the amount needed to return to the soil the same quantity of potash that the first three-ton hay crop removed.**

Mr. Morrow recommends that the muriate of potash be broadcast soon after the hay is removed from the field, and before much new top growth has occurred. If the soil tests below medium (200 lb.) in potash, the rate of application should be increased to insure an adequate supply the year round.

If the phosphate test is below 150 lb., superphosphate should also be applied. The superphosphate and potash may be purchased separately as 60% muriate of potash and 45% superphosphate. The fertilizers then can be placed in an easy flow type spreader in the amounts of each that will give the desired units of each when spread. Mr. Morrow says that if the spreader is filled with alternate layers of the two materials it will do a good job of mixing.

Alfalfa is an expensive crop to establish. Lack of potash causes the stand to thin out. Lack of phosphorus results in short growth.

Topdressing is the way to prevent both of these things from happening to the alfalfa crop, Mr. Morrow advises.

★

Fertilizer applied to pasture on the Dean Pingel farm near Chilton, Wis., this spring paid off. Cuttings taken recently revealed the fertilized area produced over 2¼ tons per acre while the unfertilized area produced slightly over a quarter ton per acre. The exact increased yield over the unfertilized area has 1,875 lb. of dry forage. Then too, there will continue to be increased yields during the entire season. The fertilizer applied was 16-8-8 at 500 lb. per acre.

On another nearby farm, 500 lb. of 0-10-30 B were applied to an old alfalfa field. The unfertilized part yielded 1,875 pounds of dry forage per acre. The fertilized area yielded 3,375 lb. or an increase of exactly three-fourths of a ton more.

# FARM BILL

(Continued from page 1)

program of a pro-rata share of a national allotment of approximately 16 million acres and obtain the level of price support of a fixed percent of parity as now calculated for the 1959-60 crop years or under plan (B), they may exceed their prorata share of a 16 million acre base and exceed their acreage allotment by 40%, and in so doing they would obtain an approximate price support level of 65% of parity for the 1959-60 crop years.

**According to advance forecasts by USDA officials, it will mean that those farmers, presumed to be the small acreage farmers, will accept plan (A) to get the higher level of support. In most instances, they would be unable to gain major advantages from such a sweeping increase in cotton acreage which is more suitable to the big acreage cotton farms, and the level of support will hover around an 80% of parity support level for that part of the cotton crop for years 1959-60.**

Plan B, the magnet for the big acreage cotton farmer, will have a support line estimated for the 1959-60 crop years at what now appears to be not more than 65% of parity, or as the Senate bill defines that level, at 15 percentage points below the higher support level of plan (A).

Cotton obtained in Commodity Credit Corp. loan defaults at the higher level of price support will be required to be re-sold into the market within 60 days after take-over at 110% of the level of support for that of plan (B), or at about 71% of parity. USDA officials believe that this re-sale requirement will not dislocate cotton markets since they expect that during the 1959-60 crop years the domestic market price of cotton will remain above the 71% of parity support and that such re-sale will be absorbed without difficulty.

## Alternatives Slated

For the 1961 cotton crop the full effects of the Senate bill will become effective, wherein the following conditions will result: All cotton will be supported at between the higher of 90% the immediately preceding three years' national average price, or at 30¢ a pound, middling inch or 60% of parity.

**The decision the cotton producers will make regarding plans (A) or (B) for crop years 1959-60 becomes a matter of judgment by persons competent to express opinions on this item. USDA believes that the big cotton producers whose unit costs are low, will go for plan (B) with its liberalized acreage. If this judgment proves to be correct, it will mean an accelerating shift of cotton production out of the old areas of the cotton belt in the Southeast into the larger cotton lands of the West and Southwest. In these latter areas acreage expansion is possible and larger acreage is needed to permit a larger investment in mechanized cotton farming, thus lowering the per unit cost of production.**

While the full effects of the Senate farm bill, if enacted, will be deferred for two additional crop years in the case of cotton and rice, nevertheless the Senate bill does establish the bull's-eye area of the chemical industry sales target. The dead center of that sales target will be brought into focus in 1961 when the cotton producers go into the final cycle wherein all cotton will be supported on a common basis of not less than 60% of parity, or 30¢ a pound, or 90% of the national average market price for cotton for the immediately preceding three years, whichever is the higher.

It is most important to read these explanations carefully since there is a use of 60% of parity in one instance and 90% of the three-year national average market price in another.

The Senate bill provides for cotton, rice and corn that the level of support ultimately—differing as to ultimate application for each crop—will be the higher of 60% of parity as a minimum or floor or 90% of the national average market price for the immediately preceding three years, or a specified dollars and cents minimum for each crop.

**This center of the bull's-eye of the sales target must be the objective of sales-minded persons of the agricultural chemical industries.**

Primarily it focuses attention on the shifting emphasis of cotton production from the small acreage, high-cost farmers of the old cotton belt, to the new larger acreage units of the Southwest and West Coast where attention focuses on cost of production—areas where mechanized equipment is available for planting, cultivation and harvest and for the protection of the crop as it is grown.

## Westward Trend

The pay dirt acreage for the chemical industry in the cotton economy is moving its center westward. The ending of cotton production in the old cotton belt is imminent. This new farm bill, again if enacted, will hasten the day when cotton may be little more than a memory to the farmers of the Southeast and probably most of the cotton belt east of the Mississippi River.

It may be the better part of wisdom for the sales-minded persons of the chemical industries to prepare for this transition—which may be just short of the flood stage if the Senate bill is enacted.

As in the case of cotton, the Senate farm bill will lower the levels of support for corn to those between 60% of parity or $1.10 per bushel or 90% of the prevailing national average market price for the immediately preceding three years, whichever is the higher starting with the 1959 crop year.

As for corn, the old commercial corn belt concept is ended and all corn, no matter where grown, would be supported on a common basis which would be generally lower than the price levels which have prevailed, except for the non-commercial corn area which previously obtained price support at 75% of the price support level for compliers with acreage allotments.

This new level of suport for the old non-commercial corn belt will represent an increase of between 12-15¢ a bushel for corn grown in that area, or for that matter in all areas of the U.S. heretofore outside the old commercial corn belt.

Consequently, the Senate farm bill does accelerate the transition of cotton acreage from the old cotton belt to the West and Southwest, and it also provides a compensation to the Southeast to the extent that the new corn price supporting activity is effective, it will provide a larger market for plant foods and pesticidal chemicals in the production of corn.

The corn provision of the pending Senate-passed farm bill will go into effect for the 1959 crop and following years. It provides a minimum level of support for corn at the higher of $1.10 a bushel or 60% of parity, or 90% of support based on the national average market price for that crop in the three immediately preceding years.

From that analysis it may be seen that promotion of production of corn in the former non-commercial corn belt will be much more attractive operation that in the past. It should also promote attention to the use of locally grown corn in the production of poultry, livestock and swine. This should create a demand for better and more adequate use of fertilizers and protective chemicals, both for production and protection of the harvested crop.

In the instance of rice, the full impact of the Senate farm bill is not effective until the 1961 crop year.

For the future, 1959 onward, rice acreage will be 1.6 million acres and the level of price support for the 1959-60 crop will be between 75-90% of parity. Starting with the 1961 crop year the level of price support for rice will be the higher of 60% of parity or 90% of the preceding three year national average market price or $4 cwt.

This bill means that the impending further mandatory reduction of rice crop acreage to not more than 800,000 acres will be halted while the rice industry has on its own volition, urged a lower level of support for liberalization of acreage. Here again is the significant aspect of this provision of the Senate bill. The rice industry has reached the conclusion that in view of its large investment in machinery and equipment, it must have sufficient acreage to realize maximum production efficiency from their capital investment. Price support levels alone, without adequate acreage, defeat the basic purpose of this modern equipment.

## Unit Costs Reduced

This position of the rice industry again emphasizes what chemical industry leaders here have repeatedly stated: Because of modern chemicals, the farm community has the ability, by lowering unit costs, to gain freedom from controls and government price restraints, or alleged price support protection which breed restraints.

The rice industry appears to have realized that no matter how high the level of federal price support, it will not permit the maximum efficient use of their capital investments of equipment and facilities.

This Senate bill is the guide for sales plans for the agricultural chemical industry. It forecasts the accelerated shift in emphasis of cotton production from the old cotton belt east of the Mississippi River to the west and southwest where liberalized acreage allotments and highly efficient production will produce a big chemical market.

For corn, the bill means a changing pattern of sales of fertilizer and protective chemicals which will in part compensate the southeast market loss as the demand changes from cotton crop requirements to those of corn and other feed grains.

In connection with corn aspects of the Senate bill, it is noted that this measure would make mandatory price support for all other feed grains—oats, barley, rye and grain sorghums at not less than 60% of the parity price for those crops. This provision adds little accept the assurance that there will be a price support for those crops. In recent years USDA has granted support for those crops when price supports were available for corn, but during the Benson administration, USDA has lowered the level of support for those crops.

H. C. Huffman

**ADVANCED BY SWIFT — H. C. Huffman has been named head of the procurement department of the agricultural chemical division of Swift & Co., Chicago. In his new position, Mr. Huffman will be responsible for the purchase of plant food raw materials and will also work with H. P. Gould, manager of the Bartow, Fla., phosphate center in the sale of phosphate rock and triple superphosphate. Mr. Huffman first joined Swift at its Evansville, Ind., packing plant in 1928. For the past eleven years, he has assisted in general accounting for the agricultural chemical division of the oil mill and feed departments.**

## Sulphur Company Reports

NEW YORK—Net income of Texas Gulf Sulphur Co., Inc., for the three months ended June 30, 1958, was $3,460,334, or 35¢ a share, on the 10,020,000 shares in the hands of stockholders, according to a letter mailed to shareowners today. In the comparable period of 1957, net income was $5,365,996, or 54¢ a share, on the same number of shares.

Net income for the first half of 1958 totaled $6,932,821, equal to 69¢ a share, compared with net income of $10,996,687, or $1.10 per share in the first half of 1957.

## Highway Equipment Co. Names Representative

CEDAR RAPIDS, IOWA — Appointment of C. "Doc" Meader as district representative for Highway Equipment Co. has been announced by Gale E. Allen, general sales manager. Mr. Meader will cover the states of Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, and Washington. Highway Equipment Co. manufactures lime and fertilizer spreaders, asphalt spreaders and ice control equipment.

Before joining Highway Equipment Co., he was sales representative for Bituminous Material & Supply Co., Des Moines, Iowa, and previously was with D-A Lubricant Co., Indianapolis, Ind.

## NPFI Grant Permits Study on Teaching

WASHINGTON — A $2,500 grant has been awarded to the University of California, Davis, by the National Plant Food Institute to support a graduate research fellowship in agricultural education during 1958-59.

The grant enables Roy Lippert, selected as the fellowship recipient, to conduct a study on the effectiveness of demonstration plots as teaching aids.

Supervising the study is an advisory committee headed by S. S. Sutherland, chairman, department of education, Davis. Other committee members are: Dr. D. G. Aldrich, chairman, department of soils and plant nutrition; Dr. G. N. Davis, department of vegetable crops; Dr. W. A. Williams, assistant professor of agronomy; Torrey Lyons, extension vegetable crops specialist and Byron J. McMahon, chief, bureau of agricultural education, State Department of Agriculture.

Mr. Lippert will set up plant nutrition demonstration plots throughout the State of California and will work with vocational agriculture teachers and also with county farm advisors of the University of California agricultural extension service.

The fellowship student received his B.S. degree in agriculture from Oregon State College and during the past year he has been studying at the University of California to earn an M.S. degree in education.

# Many-Sided Project Budget Approved by Midwest Advisory Committee of Institute

CHICAGO—Members of the Midwest Regional Advisory Committee of the National Plant Food Institute reviewed plans for expanded educational activities and approved the proposed budget for the year ending June 30, 1959, at a meeting held here July 22. R. E. Bennett, NPFI president, and also chairman of the regional committee, presided.

Among projects approved by the committee were:

County-wide projects to measure the impact of soil testing and fertilizer demonstrations on the use of fertilizer, and the attitudes of people toward the use of fertilizer. These studies will also include a survey of dealers and their attitudes toward fertilizer. The studies will be made in as many states as the available funds will cover.

Grant-in-aid for fertilizer research projects in Indiana, Kentucky and Michigan; also support for fertilizer demonstrations in Wisconsin.

Funds for an NPFI scholarship program in seven Midwestern states, to recognize superior students in soils or crops at the agricultural colleges.

Continuance of the educational news service to 1,700 daily and weekly newspapers and 375 radio and TV stations in the region.

Printing and production of crop potential wall charts and check lists for four more states to supplement the program already under way in Illinois and Wisconsin.

Cooperative projects with state banking associations in 13 Midwestern states.

Expansion of the February joint meeting of college agronomists and fertilizer industry men. A proposed addition is a discussion between extension agronomists and 4-H Club project leaders in the 13 states, with the purpose of strengthening the soils and fertility aspects of the 4-H Club projects in the area.

Zenas H. Beers, Midwest regional director, reported that two new district representatives have been employed. These are Arlan Woltemath, who will work in the states of Kansas, Missouri, Nebraska and Iowa; and John Guttay, who will cover Michigan, Ohio, Indiana and Kentucky.

The Institute is now in the process of obtaining a third representative who will work out of St. Paul, covereing Minnesota, Wisconsin, North and South Dakota, Mr. Beers said. "This will bring the staff up to projected strength and we will then proceed full steam with the activities of the region," he added.

Attending the meeting were: W. R. Allstetter, NPFI vice president; R. E. Bennett; Z. H. Beers; Merle Blue, Consumers Cooperative Assn.; R. G. Fitzgerald, Smith-Douglass Co.; Frank Nelson, Rath Packing Co.; A. C. Norris, V. W. Norris & Son; E. T. Potterton, International Minerals and Chemical Corp., and W. W. Venable, Cornland Manufacturing Corp.

# What's Been Happening?

**This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.**

A public relations panel discussion and an imposing list of speakers are on the program for the 25th anniversary meeting of the National Agricultural Chemicals Assn. scheduled to be held at Augusta, Ga., Oct. 29-31. The association announced the tentative program plans late in July.

Paraguay exempted fertilizers from payment of import duties. Chemicals mentioned specifically in its law included commercial potash, caustic soda, sodium nitrate, sodium sulfate and sodium carbonate.

**R. P. Thomas, International Minerals & Chemical Corp., Chicago, was made chairman of the National Plant Food Institute's Midwest Research and Education committee.**

Kenneth D. Jacob, chief of the Fertilizer Investigations Research Branch, Soil and Water Conservation Research Division, USDA, was selected to receive the 1958 Harvey W. Wiley Award of the Association of Official Agricultural Chemists.

That food labels need carry no information about whether or not pesticides have been applied to the crop before harvest was decided by the House Interstate Commerce Committee. The ruling amended the definition of what constitutes chemical preservatives as referred to in the Federal Food, Drug and Cosmetic Act. Pesticides are not preservatives, it was brought out.

**A new firm in Ecuador for the processing of pyrethrum flowers was announced. Known as Inexa, Industria Extractora C.A., the firm will be under the managership of Dr. Luis Werner Levy.**

Dr. O. B. Jesness, agricultural economist, writes that the partnership between farmers and bankers, increasing over the years, is now an important factor in the purchases of ample amounts of fertilizer materials and other farm needs.

Attorneys for the plaintiffs in New York's DDT trial announced that they would appeal the decision of Judge Walter Bruchhausen who had ruled that the 14 Long Island residents who tried to stop the government's pesticide spray programs had no proof for their claims against DDT.

**The U.S. Department of Agriculture announced that it would release 50 million sterilized screwworm flies, half of them males, in the southeastern states to reduce the numbers of screwworm pests in the area. The operation was conducted jointly by USDA and the states involved. An area of some 50,000 to 75,000 square miles is involved.**

An article pointing out the merits of selling fertilizers the year around was presented in Croplife by G. A. Wakefield, Olin Mathieson Chemical Corp. He told his readers that both efficiency and profits will be bolstered by successfully merchandising fertilizers in the off-season.

International Minerals and Chemical Corp. announced that its grant-in-aid program for research in plant nutrition and soil fertility totaled $125,000 for the 1957-58 period. Some 25 colleges were named as recipients of the grant.

Federal funds in the amount of $1 million were made available to help stop the outbreak of migratory grasshoppers in Colorado, Kansas, Oklahoma, New Mexico and Texas. This represents about a third of the expected cost of spraying some 5 million acres in 46 counties of these five states. About 80% of the total acres comprise rangeland.

**Insect activity all over the U.S. stepped up early in July, with corn borer, grasshoppers, armyworm and alfalfa aphids being among the most prominent pests mentioned in reports.**

The 3% excise tax on freight movements was ended by Congress, effective Aug. 1, 1958. The move was hailed by the fertilizer industry as a boon to its tight profit margin situation.

Spencer Chemical Co. closed its Vicksburg, Miss., anhydrous ammonia plant on June 21 for the period of approximately a month, to adjust its inventories. The company continues to make deliveries from the plant as usual.

Edward Block was named to head the chemical division of Olin Mathieson Chemical Corp. He was formerly vice president in charge of the company's agricultural and phosphate chemicals divisions.

Fertilizer consumption in the U.S. and possessions totaled 22.7 million tons in the fiscal year ended June 30, 1957, the U.S. Department of Agriculture reported. This was an increase of 515,041 tons, or 1.7%, over the use the previous fiscal year.

Mass DDT spray projects got a clean bill of health in a decision following a U.S. District Court trial in Brooklyn. Action had been brought to restrain the mass spray projects, and plaintiffs charged that such sprayings of gypsy moth were injurious to health, property and wildlife. Walter Bruchhausen, federal judge, said in his decision that mass DDT spraying did not live up to these charges.

**Approval by the Senate judiciary committee of the Kefauver-Patman amendment to the Robinson-Patman Act was given recently. The provisions of the bill cover only food, drugs and cosmetics which would be used in human food or applications. Adoption of the act would deny to manufacturers the defense that reductions in price resulted from a competitive situation.**

Congress was preparing legislation to provide funds for research on the effects of pesticides on wildlife. Government officials hailed the move as being one of the most constructive to come about in years, in bridging the gap between the USDA and the Department of Interior caused by misunderstanding in seeking ways to gain common ends.

Jacob White was named president of the Nitrogen Division, Allied Chemical Corp., New York. Mr. White, who has been associated with Allied since 1921, succeeds Hugo Riemer in his new position. The new president was advanced from the office of vice president.

## Hummel Chemical Co. Offers Nicotine Sulfate

NEW YORK — Hummel Chemical Co., 90 West St., New York, is now offering nicotine sulfate, containing 40% nicotine. The product is used as a toxic agent for controlling ants, aphids and other insects. It is also used as a raw material for making other nicotine salts. Other applications include delousing preparations for sheep and poultry and as a toxic agent in germicidal compositions.

## Hodag Chemical Begins Major Expansion

CHICAGO—Hodag Chemical Corp., 7247 N. Central Park, Chicago, has started construction of new production, laboratory and office facilities as part of a major expansion program recently initiated by the firm.

The new facilities, which are expected to be completed by Sept. 1, will quadruple Hodag's present plant space. Laboratory space will be tripled and office area doubled to handle demands for Hodag antifoams, esters, emulsifiers, flocculating agents, and other surface-active chemicals.

### DIRECTORS ELECTED

NEW YORK—At a recent meeting of the Inglett Co., Inc., held in Augusta, Ga., three members of Union Bag-Camp Paper Corp. were elected to the board of directors. They are S. K. Bradley, vice president in charge of bag sales; A. Lawson Sopp, comptroller, and W. F. Jacobi, director of package engineering. Inglett manufactures packaging equipment which is sold through the Union-Camp organization.

## Polyethylene Fertilizer Bags Claimed to Protect Contents from Wet Weather

KANSAS CITY, MO. — Spencer Chemical Co. has begun to market some of its ammonium nitrate fertilizer in 50-lb. transparent polyethylene bags. This innovation, according to the makers, will help to solve storage problems on the farm, since it is possible for the buyer to store his fertilizer in the open without fear of weather damage. Spencer also points out that the polyethylene bag presents broad possibilities for reuse after its initial contents have been emptied.

Among the reuses suggested as possible by the makers, are making of tarpaulin-like sheets of polyethylene; storage of other materials necessary to be kept dry, and for covers for machinery.

Spencer states that the polyethylene bag lends itself to holding fertilizers because of its being impervious to moisture, air-tight, and corrosion proof. This type of container, Spencer says, can be feasible for use in fertilizer mixing plants.

The plastic film used in the bags is 10 mil. (10/1000 inch) thick, about five times the thickness of smaller polyethylene bags familiar as fruit and vegetable packages. Spencer says that more than two years of development work have indicated the bag to be an efficient container for ammonium nitrate and other materials. The container has undergone severe tests of toughness, results of which show the bag capable of withstanding the rigors of shipping and handling, the makers state.


**POLYETHYLENE BAG IN USE—The new 50-lb. polyethylene fertilizer bag introduced by Spencer Chemical Co. makes it possible for fertilizer materials to be stored in areas ordinarily considered unsuitable for such. In the top picture, Lowe Redding, Clarkeville, Tenn. fertilizer dealer, protected several tons of bagged fertilizer on his dock with a shipment of ammonium nitrate in plastic bags which served as an emergency "wall." The polyethylene material is impervious to weather. Below is a farmer unloading ammonium nitrate in an open field despite mud and rain, where the material will be convenient for applying later. The plastic bags provide protection from dampness, according to the makers.**

# Industry Patents and Trademarks

**2,844,455**

**Fertilizer Manufacture.** Patent issued July 22, 1958 to Jay C. Harris, Dayton, Ohio, assignor to Monsanto Chemical Co., St. Louis, Mo. In the process of producing superphosphate fertilizers by the acidulation of natural phosphates, the improvement comprising carrying out said acidulation with an acid selected from the group consisting of sulfuric acid and phosphoric acid in the presence of an alkili metal alkylbenzene sulfonate having from 4 to 6 carbon atoms in the alkyl portion thereof.

**2,844,503**

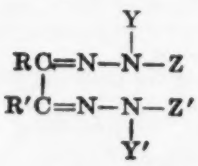
**1,1-Dimethyl-2,2-Di(1-Cyanoethyl) Hydrazine, Method of Preparing, and Compositions and Method for Controlling Nematodes.** Patent issued July 22, 1958, to Robert P. Parker, Ridgewood, and John F. Hosler, Bound Brook, N.J., assignors to American Cyanamid Co., New York. A nematocidal composition comprising a pesticidal adjuvant as an inert carrier, and as the essential active ingredient of the compound: 1,1-dimethyl-2,2-di(1-cyanoethyl) hydrazine.

**2,844,504**

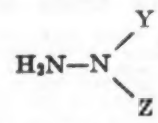
**1,1,2-Tri-(1-Cyanoethyl) Hydrazine, Method of Preparing, and Compositions and Methods for Controlling Nematodes.** Patent issued July 22, 1958, to Robert P. Parker, Ridgewood, and John F. Hosler, Bound Brook, N.J., assignors to American Cyanamid Co., New York. A nematocidal composition comprising a pesticidal adjuvant as an inert solid carrier and as the essential active ingredient of the compound: 1,1,2-tri-(cyanoethyl) hydrazine.

**2,844,505**

**Fungicidal Compositions Comprising Phenylosazones.** Patent issued July 22, 1958, to Robert E. Miller and Van R. Gaertner, Dayton, Ohio, assignors to Monsanto Chemical Co., St. Louis, Mo. A fungicidal composition comprising water, an emulsifying agent and an osazone selected from the class consisting of those osazones having the formula

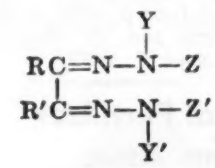


in which R and R' are selected from the class consisting of hydrogen, aliphatic and aromatic hydrocarbon radicals containing from 1 to 12 carbon atoms, and nitrosubstituted aryl radicals of from 6 to 12 carbon atoms, Y and Y' are selected from the class consisting of aliphatic and aromatic hydrocarbon radicals containing from 1 to 12 carbon atoms and Z and Z' are selected from the class consisting of hydrogen and Y and Y', and those osazones derived from a reducing saccharide and a substituted hydrazine of the formula

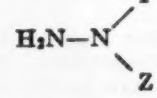


in which Y and Z are as herein defined.

The method of inhibiting the development of rust on wheat which comprises applying to the wheat a rust inhibiting quantity of a fungicidal composition comprising as osazone selected from the class consisting of those osazones having the formula



in which R and R' are selected from the class consisting of hydrogen, aliphatic and aromatic hydrocarbon radicals containing from 1 to 12 carbon atoms, and nitro-substituted aryl radicals of from 6 to 12 carbon atoms, Y and Y' are selected from the class consisting of aliphatic and aromatic hydrocarbon radicals containing from 1 to 12 carbon atoms and Z and Z' are selected from the class consisting of hydrogen and Y and Y', and those osazones derived from a reducing saccharide and a substituted hydrazine of the formula



in which Y and Z are as herein defined.

**2,844,506**

**Fungicidal Compositions.** Patent issued July 22, 1958, to Roy H. Jenkins, Jr., Wilmington, Del., assignor to Hercules Powder Co., Wilmington, Del. A process of preserving a material normally susceptible to fungicidal attack which comprises applying to the material a minor amount of a fungicidal composition comprising an active fungicide selected from the group consisting of the copper and zinc salts of para-substituted lower alkyl benzoic acids and a fungicidal adjuvant therefor.

**2,844,507**

**DDT Stabilized Compositions.** Patent issued July 22, 1958, to Ralph Rodriguez-Torrent, Winter Park, and Robert M. Fitzwater, Orlando, Fla., dedicated to the public. A composi-

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## PATENTS

(Continued from page 19)

tion of matter comprising DDT-20-30%, alkylated napthalenes-60-70%, emulsifier, 3-10%, and sodium thiosulfate, 0.1-2.0%.

### Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

**Rich Lawn,** lettering on hand-drawn design in black and green, for balanced water solution of soil nutrients and insecticides in liquid form for application to lawns, shrubbery and garden plants, as a fertilizer and for the destruction of predatory insects. Filed June 5, 1956, by Richlawn of Ft. Worth, Inc., Ft. Worth, Texas. First use Sept. 1, 1955.

## National Fertilizer Solutions Assn. To Meet in Cincinnati

CHICAGO—The 1958 convention of the National Fertilizer Solutions will be held Nov. 16-18 at the Netherland Hilton Hotel in Cincinnati, it has been announced by Richard Cecil, president.

Planning for Profits is the theme of this year's convention, which promises to draw a larger attendance than the 350 registered last year. The opening session Nov. 17 will feature a nationally known speaker in the field of sales, covering the dealer's role in fertilizer sales for increased profits, as well as sales planning for seasonal work.

The morning program Nov. 18 offers the presentation of research work being done in the area of the acceptance of new ideas by farmers. Announcement of the speakers on this program will be made soon.

A panel discussion is planned for the Nov. 18 afternoon session, following the general convention theme, with speakers from the membership covering the subjects of production and inventory control, production equipment, application equipment and standardization.

The board of directors of the association will meet Nov. 16. There will be no formal sessions for the members, but many will be arriving early for visits with the suppliers in the conference rooms, which arrangement is being repeated this year by popular request. Two complete floors of conference rooms have been reserved at the Netherland Hilton.

Inquiries for space in the conference rooms should be addressed to the executive secretary of the association, M. F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

The 1958 Convention Planning Committee is comprised of William B. Parrish, Auburn, Ill., chairman; E. E. Crouse, NFSA executive vice president, Libertyville, Ind.; Carl Schumacher, Monsanto Chemical Co., St. Louis; John L. Wilson, Semo Liquid Fertilizers, Inc., Charleston, Mo., and Ernest M. Harper, Allied Chemical Corp., New York.

Since the 1957 convention, the membership of the association has increased, and a goal of 200 members before the 1958 convention has been set. A total registration of more than 400 persons is expected at the 1958 convention.

## Regulation Change

LITTLE ROCK — The Arkansas Plant Board has modified Regulation 3, Paragraph B of the Arkansas Fertilizer Law to require that only the actual value of the shortage found shall be assessed as a penalty. Previously the penalty was three times the value of the shortage. The new regulation went into effect July 11.

K. T. Seaborne

## K. T. Seaborne Named Cominco Products Head

SPOKANE — K. T. Seaborne has been appointed manager of Cominco Products, Inc., according to a recent announcement by R. Hendricks, president of the company. Mr. Seaborne, who has been sales manager for CPI for the past two years, took over his new duties July 1.

Prior to joining his present firm, Mr. Seaborne was with the Consolidated Mining and Smelting Co. of Canada, Ltd., for over 30 years during which time, he rose to the position of western sales manager. In his new post Mr. Seaborne will have charge of all activities of Cominco Products, Inc., a Spokane company whose main function is the marketing of Elephant Brand fertilizers throughout western U.S.

## WEEDS

(Continued from page 7)

During the four-year investigations, 1953 and 1955 were relatively dry growing seasons. In 1953, July, August, and September were exceptionally dry; and in 1955, July and the first part of August were marked by hot, dry weather. In both years, the competition for moisture in the corn-with-weeds plots in comparison with pure corn plots was quite noticeable.

This competition is clearly expressed in the corn yield data because of the weeds, corn yields for the dry growing seasons of 1953 and 1955 were reduced 56 and 51%, respectively. On the other hand, under more normal weather conditions (1952 and 1954), the average reduction in corn yield as a result of weed competition was only 33%. It is interesting to note that in any year, yield reduction due to weeds was highly significant.

Conclusions reached from these studies are as follows:

1. Common weeds are able to accumulate large amounts of potassium and nitrogen in their tissues in comparison with companion cultural plants, and competition for these essential plant nutrients is great. Also, weeds distinguish themselves by being comparatively rich in Ca and Mg.

2. Competition for moisture is strong, as observations and corn yield data indicate, and especially effective when moisture is limited.

3. Even at high rates of fertilization with complete fertilizers, weeds compete strongly for essential nutrients, light, and moisture. Weeds suppressed the growth of corn and resulted in significant decrease in corn yields. The data showed clearly that it is not feasible to maintain high corn yields in the presence of competing weeds by increased rates of fertilization.

## GALVESTON

(Continued from page 2)

Dr. M. B. Sturgis, head of the agronomy department, Louisiana State University, spoke for Louisiana. He said that 6-12-6 would be the minimum grade in the 1-2-1 ratio for Louisiana in 1959. He stated that while the total fertilizer tonnage was off 14% in 1957-1958 in Louisiana, the plant food units were only off 10%. Dr. Sturgis mentioned the new Louisiana fertilizer booklet No. 51 printed in January, 1958, entitled "General Fertilizer Recommendations for Louisiana." This publication lists the nitrogen, phosphorus and potash recommendations for cotton, corn, oats, rice, sugar cane, peanuts, soybeans, lespedeza and allied pasture crops and all types of fruits and vegetables grown in Louisiana. There was a lively discussion of the Southwestern group on the possibility of dropping 5-10-5 and making 6-12-6 the minimum grade.

Dr. Fudge announced the committee for the 1959 convention with Mr. Hackett to continue as chairman with Mrs. Hackett also on the committee. Other members are Dr. and Mrs. Fudge; Dr. and Mrs. Robert Beacher, NPFI; Mr. and Mrs. Douglas Kelly, Monsanto Chemical Co.; Dr. and Mrs. N. D. Morgan, American Potash Institute; Mr. and Mrs. Floyd Prather, Central Texas Fertilizer Co.; Mr. and Mrs. Jordan Thorne, Grand River Chemical Co.; Mr. and Mrs. H. C. Wells, Armour Fertilizer Co.; Mr. and Mrs. Jack Lindsey, International Minerals & Chemical Corp. with Jack Lindsey renamed as publicity chairman.

The 1959 meeting will be at the Galvez Hotel, Galveston, July 15-18.

### CLOVER SEED LOSS

OREGON CITY, OREGON — Salvage is underway in Clackamas County by crimson clover seed growers to mitigate losses caused by unseasonal late June rains. Loss is estimated at more than $500,000 by J. J. Inskeep, county agent, who said about 10,000 acres of crimson clover were planted for this year's harvest and about 60% will be lost. He estimated normal yields of 800 lb. per acre with a firm price of 15¢ lb. Damage was caused by the rains which fell on mowed clover, Mr. Inskeep said.


**AT TEXAS FERTILIZER GRADE HEARING—The recent fertilizer grade hearing at Galveston, Texas, attracted many from the fertilizer trade. Seen here are some of the conventioneers on hand for the event. Top row, left to right: Jack Carlisle, Jacksonville Fertilizer Co.; Dick Falck, International Minerals & Chemical Corp.; and Mrs. Carlisle. L. G. Black, Ark-Mo Fertilizer Co.; and Sam Nevins, Olin Mathieson Chemical Corp. At far right is Dr. Russell Coleman, executive vice president, National Plant Food Institute, who appeared on the program.**

**Second row: Niven Morgan, American Potash Institute; John Hall, Potash Company of America; and Lloyd Dhonau, Arkansas Plant Food Co. Stanley Hackett, Dixie Fertilizer Co., at speakers' desk in business session; and Austin Cooke, Swift & Co. and S. B. McCoy, International Minerals & Chemical Corp.**

**Third row: Jack Lindsey, International Minerals, introduces a convention speaker. Fritz Koechlein, IMC, Jimmy Dawson, Houston, Texas, and Archie Edwards, Red Star Fertilizer Co. Harry Igo, Plainview, Texas and Ray White, Spencer Chemical Co.**

**Bottom row: Clayton Rand, principal speaker at convention, from Gulfport, Miss. Joe Wright and Tom Wright, Texas Farm Products Co. and Dr. J. F. Fudge, Texas State Chemist and Hal Hoffman, IMC.**

## COTTON

(Continued from page 1)

is a list of the 50 leading cotton-producing counties for the 1957 crop year, with state totals for all cotton production available.

Here is the list of 50 leading cotton-producing counties of 1957, and the number of running bales produced, as listed by the Bureau of the Census:

1. Kern, California .....460,058
2. Fresno, California ...403,682
3. Maricopa, Arizona ...307,216
4. Pinal, Arizona .....299,315
5. Tulare, California ....261,271
6. Lubbock, Texas .....209,329
7. Kings, California.....180,215
8. Hockley, Texas .....150,431
9. Lamb, Texas.....143,814
10. Hale, Texas .....141,663
11. Hidalgo, Texas .....130,160
12. Dawson, Texas .....127,581
13. Mississippi, Arkansas.125,816
14. Lynn, Texas .....123,632
15. Reeves, Texas .....119,900
16. Bolivar, Mississippi...106,093
17. Sunflower, Mississippi. 97,718
18. Imperial, California .. 93,178
19. Cameron, Texas..... 91,979
20. Crosby, Texas ..... 90,360
21. Coahoma, Mississippi. 85,115
22. Crittenden, Arkansas. 80,756
23. Terry, Texas..... 78,673
24. Floyd, Texas ..... 78,189
25. Washington, Mississippi ..... 69,950
26. Dona Ana, New Mexico 66,868
27. Jefferson, Arkansas .. 65,764
28. Madera, California ... 63,583
29. Bailey, Texas ..... 63,568
30. Yuma, Arizona ..... 62,856
31. Phillips, Arkansas ... 60,881
32. Leflore, Mississippi... 57,342
33. Nueces, Texas ..... 56,125
34. Willacy, Texas ..... 55,534
35. Wharton, Texas ..... 54,128
36. Haskell, Texas ..... 53,946
37. St. Francis, Arkansas 53,890
38. Pecos, Texas ..... 53,258
39. Parmer, Texas ..... 51,937
40. Cochran, Texas ..... 51,892
41. El Paso, Texas ..... 51,329
42. Lee, Arkansas ..... 50,726
43. Poinsett, Arkansas .. 50,347
44. Pemiscot, Missouri .. 49,963
45. Craighead, Arkansas . 48,799
46. San Patricio, Texas .. 48,119
47. Eddy, New Mexico .. 46,014
48. Merced, California ... 45,125
49. Castro, Texas ..... 44,685
50. Tunica, Mississippi .. 44,458

## MONSANTO

(Continued from page 1)

C. Torkelson Co., Salt Lake engineering firm and a defendant in the case, had "wrongfully and unlawfully" used Monsanto trade secrets revealed by Miller, but it did not grant an injunction against that firm at this time. The court order, however, did provide that Monsanto may apply for an injunction against Torkelson at any time it should appear that the Torkelson firm or any of its employees are making use of the trade secrets and other data involved.

The ruling climaxes action begun by Monsanto in December, 1956, against Miller and the Torkelson firm. Central Farmers Fertilizer Co. is a defendant in a companion suit in the U.S. Federal District Court at Pocatello, Idaho. Monsanto officials indicated that they intend to proceed as soon as possible with this latter case.

The Utah case was heard in a month-long trial before Judge A. Sherman Christensen of the U.S. District Court at Salt Lake City. At the end of the trial, the court's findings of fact and conclusions of law held that Miller, in violation of both his common law and contractual duties, deliberately acquired for future use over a period of more than a year while in Monsanto's employ, information subsequently revealed to the Torkelson firm and to Central Farmers.

## Too Much Rain Gives Mid-South Farmers Difficult Time

MEMPHIS—Continued heavy rains are giving some Mid-South farmers a double barreled problem—floods and interrupted insect control programs.

County agents in Mississippi report that excessive rains have halted cotton poisoning programs in many areas of the state. However, despite the rains, crops are generally clean and boll weevil infestation is still lower than usual for the season. Extension officials also report that the wet weather is causing considerable shedding of squares in cotton fields.

Corn prospects are excellent and pastures continue to furnish plenty of grazing although they are weedy. Rain continues to hold up the harvesting of hay.

**C. A. Vines, Arkansas associate extension director, is less optimistic about his state's cotton crop.**

**Mr. Vines says that cotton in northeastern Arkansas is being critically damaged by the rains. "We have about two-thirds of a stand on the land in that area. Some of the crop has been abandoned," he said.**

Spider mite and bollworm populations continue to increase on cotton in Arkansas. Bollworm egg and larvae counts have taken a drastic jump in many fields.

Grover Dowell, entomologist, reports that first generation boll weevils continue to emerge. Peak emergence of first generation boll weevils has occurred in most areas of the state. He reports that grain sorghum has a heavy infestation of garden webworms, fall army worms and corn earworms in some areas of the state and that garden webworms are damaging young soybeans.

H. T. Short, Tennessee district extension agent at Jackson, reports that all types of crops are looking good although some areas are experiencing flood damage. Lake County appears hardest hit with about 2,000 acres of crop land under water. Dyer County agent John Barrett reported about 1,000 acres under water.

Farmers near Caruthersville, Mo., worked around the clock this week using draglines, tractors and bulldozers in an effort to repair a 60 foot break in an earthen dam. The dam broke under the pressure of the rising Mississippi River and flooded 2,500 acres and threatened another 4,000 acres.

U.S. Engineers closed dams in the Mississippi Delta Flood Control system in the wake of rain storms that dumped more than six inches of rain in the delta. Dams at Enid, Arkabutla, Grenada and Sardis were closed in an effort to control the rising Yazoo and Tallahatchie Rivers.

### MANAGER NAMED

NEW YORK—American Metal Climax, Inc., has announced the appointment of Jerome Fuchs as manager, systems and procedures for the company.

# Croplife®

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Northeastern states.


## Organic Eaters May Cheat Themselves, Nutritionally

OBSERVATIONS made in a recent talk by Allen B. Lemmon, chief of the Division of Plant Industry, California Department of Agriculture, seem worth underlining and repeating here. The article, which appeared in a recent issue of Croplife, takes up the public relations aspect of the much-maligned State-Federal spray programs and points out some factors frequently overlooked.

That opponents of the use of pesticides in any manner whatever in the production of fruits and vegetables are working under completely false premises in their fear of being poisoned, was a strong point made by Mr. Lemmon. He tells about an advertisement he received from a so-called "health store" which announced that it would carry "organically-grown, unsprayed fruits and vegetables" for the sake of its patrons' health.

The store asks in its ad, "Would you, after preparing your salads and vegetable dishes, spray them with insecticides before serving them to your family?" It then answers its own query by saying "Of course not! Yet that is in effect what you do when you buy today's produce!"

Such grossly exaggerated statements put into the imagination of readers the picture of food fairly reeking with layers of poisonous substances, eager to claim their next victim. Actually, as Mr. Lemmon points out, this is completely untrue and the U.S. Food and Drug Administration and many health authorities are concerned about this type of scare propaganda.

In the face of the great effort being made to administer the federal and state laws pertaining to proper labeling of pesticides so there will be no residues left on foods, it seems ridiculous that any group of people should be taken in by such unfounded tripe as dished out by these faddists. Instead of being "poisoned" by food from the usual market channels, these folks may be actually cheating themselves, nutritionally, by restricting their diets to only those foods that they consider "pure."

As Mr. Lemmon says, "The Food and Drug Administration has established tolerances for many chemicals on many crops, all with the intent of safeguarding the health of people. When any group tries to oppose this program by encouraging the public to buy a restricted list of foods, or to avoid many of our good nourishing foods, the strength and health of our nation may be affected from the nutrition standpoint much more seriously than it would be affected by chemicals, even if the previously-mentioned controls were not in effect."

Next time any of our readers have occasion to argue the merits of pesticides with one of these people who dislike even the word "insecticide," some of the points made by Mr. Lemmon would offer a potent rebuttal.

## Plant Nutrition Technology Saves Consumers Billions

CONSUMERS who feel that food prices are far too high, should be reminded that if it were not for technical advancements made in the fertilizer and pesticide fields, food would be much higher than it is now.

In a recent interview with Dr. Russell Coleman, executive vice president of the National Plant Food Institute, one of the farm magazines presented some interesting information given by Dr. Coleman. When asked in what ways the consumer benefits from progress in farming know-how, Dr. Coleman said that if farmers had not made use of technological advances in the last few years, the consumers' food bill would be considerably higher than it is. If farmers operated in 1950 as they had in 1940 without making technological progress in those ten years, the annual consumers' food bill for 1950 would have been an estimated $10 billion more that year than in 1940.

Projecting this to 1958, Dr. Coleman said that if farmers operated this year as they did in 1940, using the same amounts of fertilizer, the same kinds of insecticides, the same kinds of equipment, the same practices—the consumers' food bill would be at least $13 billion a year higher than it currently is.

Dr. Coleman then makes this observation: "Which is better? To have a surplus costing the consumer three to four billion a year, or to save him $13 billion a year on the food bill, plus the comforting assurance of a plentiful supply."

Dr. Coleman went on to say that the production of food on an efficient and economical basis is of more importance, actually, than is our preoccupation with the production of Sputniks.

## Farm Bill Benson Victory

WHAT SOME OPPONENTS, in and out of Congress, hoped would bring about the gradual decline and eventual fall of Ezra Taft Benson, secretary of agriculture, has turned out to be something of a triumph for that much-maligned official. In the face of forecasts to the contrary, it appears that Congress will give birth to a farm bill and will present it to the nation before the current session ends.

On balance, no matter how one may evaluate the outcome of the controversy which has raged around agriculture, full credit must be given to Mr. Benson for his unending efforts. Concessions he had to make, but they are insignificant when the major policy change now apparent is evaluated.

Certainly, the secretary did not get all he believes to be needed. But he got more than his most ardent supporters dared expect. Lower go the price supports on corn, cotton and rice and he has hacked away at the other facets of agricultural policy so dear to the hearts of the "traditionalists."

Perhaps the most important of all Mr. Benson's gains, in this march to agricultural sanity, was the acceptance of the axiom that farm price supports should be tied not to parity, but to the price actually paid for the agricultural commodities concerned in the market place.

Naturally, the "traditionalists" could not be left in the position of wholly accepting this. To accept unlimited switching of price props for corn, cotton and rice from a parity standard to the new market price support system would have been political suicide for them, too—difficult of explanation at the hustings and on the public platforms. So they were able to limit application to a certain degree. Their strategy was obvious. They wished to obtain a minimum support clause for the three crops. Thus, it is stated not only in monetary terms, as the bill originally provided, but also in terms of parity.

Yet they could not win approval for a floor higher than 60% of parity — and here again is cause for Bensonian satisfaction for that is exactly the level proposed by the secretary at the beginning of this year.

The proponents of the new conception were not dismayed by this move. The floor can be eliminated later and they accepted it because it gives them the opportunity of moving from parity to a market price support system in two easy steps instead of in a single tough stride.

Only a few months ago, Mr. Benson's resignation—either compulsorily or voluntarily and always under a cloud of disgrace and failure—was being freely forecast in political circles. He was looked upon, even by many Republicans, as a political liability. Now he is an asset, a strong man in the GOP hierarchy, and nowhere is he stronger than in the urban areas.

There is a tendency for some members of the "traditionalist" group to look upon any attack on their position as an attack on the farmers and on the countryside economy. This is not so. The demands of the high price support advocates have been less than sensible; there is every reason to believe that many farmers support the Benson conception and welcome it as a means of securing a stable agricultural economy, resting squarely on a foundation of security.


Croplife's Home Office

Croplife

BPA — *Member of Business Publications Audit*

NBP — *Member of National Business Publications*

**CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.**

LAWRENCE A. LONG
*Editor*

DONALD NETH
*Managing Editor*

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EXECUTIVE AND EDITORIAL OFFICES — 2501 Wayzata Blvd., Minneapolis, Minn. Tel. Franklin 4-5200. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
(Address Mail to P. O. Box 67, Minneapolis 40, Minn.)

Associated Publications—The Northwestern Miller, The American Baker, Farm Store Merchandising, Feedstuffs, Milling Production.

# MEETING MEMOS

**Aug. 16—Field Day, Connecticut Agricultural Experiment Station, Lockwood Experimental Farm, Mt. Carmel, Conn.**

**Sept. 24 — New England Fertilizer Conference, Melvin Village, N.H.**

**Oct. 17 — Association of American Fertilizer Control Officials, 12th Annual Meeting, Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.**

**Nov. 16-18—National Fertilizer Solutions Assn., Netherland Hilton Hotel, Cincinnati, M. F. Collie, 2217 Tribune Tower, Chicago, Executive Secretary.**

**Dec. 8—Annual Soils and Fertilizer Short Course, Coffey Hall, University of Minnesota Institute of Agriculture, St. Paul.**

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**Meeting Memos listed above are being listed in this department this week for the first time.**

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**Aug. 4-8—American Society of Agronomy, Annual Meeting, Purdue University, Lafayette, Ind.**

**Aug. 5—Field Day, Colorado State University, San Luis Valley Branch Station, Center, Colo.**

**Aug. 12-13—Ohio Pesticide Institute, Summer Field Tour, Ohio Agricultural Experiment Station, Wooster, Ohio, J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Institute Secretary.**

**Aug. 12-14—Beltsville Cotton Mechanization Conference, Civic Auditorium, Brownsville, Texas; Sponsored by the National Cotton Council.**

**Aug. 20-24—Canada Fertilizer Assn. (formerly Plant Food Producers of Eastern Canada), Annual Meeting, Manoir Richelieu, Murray Bay, Quebec.**

**Sept. 4—Grassland Field Day, Rutgers University Dairy Research Farm, Beemerville, N.J.**

**Sept. 15-17 — Canadian Agricultural Chemicals Assn., Sixth Annual Meeting, Fort Garry Hotel, Winnipeg, Manitoba.**

**Sept. 25—Chemical Industry Safety Workshop; Shamrock Hilton Hotel, Houston, Texas.**

**Oct. 13 — Agricultural Research Institute Panel on Problems Related to Agriculture in the Fertilizer Producing Industry, Academy of Science Bldg., Washington, D.C.**

**Oct. 14-15—Western Agricultural Chemicals Assn., Annual Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.**

**Oct. 16—National Plant Food Institute Conference on Chemical Control Problems; Shoreham Hotel, Washington, D.C.**

**Oct. 20—Annual Sales Clinic of Salesmen's Assn. of the American Chemical Industry, Inc., Roosevelt Hotel, New York.**

**Oct. 20-21—Fertilizer Section, National Safety Council, annual fall meeting, La Salle Hotel, Chicago, Ill.**

**Oct. 22-24—Pacific Northwest Plant Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.**

**Oct. 28-29—Northwest Garden Supply Trade Show, Masonic Temple, Portland, Ore.**

**Oct. 29-31—National Agricultural Chemicals Assn., 25th annual meeting, Bon Air Hotel, Augusta, Ga.**

**Oct. 30—Annual Southeastern Soil Fertility Conference, Atlanta Biltmore Hotel, Atlanta, Ga.**

**Nov. 5-7—Fertilizer Industry Round Table, Mayflower Hotel, Washington, D.C.**

**Nov. 9-11—California Fertilizer Assn., 35th Annual Convention, Ambassador Hotel, Los Angeles, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.**

**Nov. 10-11—Agricultural Aviation Research Conference, Milwaukee.**

**Nov. 18-20—Washington State Weed Conference, Moses Lake, Wash.**

**Nov. 24-25—Entomological Society of America, Eastern Branch, Annual Meeting, Lord Baltimore Hotel, Baltimore.**

**Dec. 1-4—Entomological Society of America, Annual Meeting, Hotel Utah, Salt Lake City.**

**Dec. 3-4—North Central Weed Control Conference, Netherland Hilton Hotel, Cincinnati.**

**Dec. 3-5—Agricultural Ammonia Institute, Annual Meeting, Morrison Hotel, Chicago, Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.**

**Dec. 9-11—Chemical Specialties Manufacturers Assn., Annual Meeting, Commodore Hotel, New York.**

**Dec. 17-18—Beltwide Cotton Production Conference, Rice Hotel, Houston, Texas, sponsored by the National Cotton Council.**

**Jan. 20-22, 1959—California Weed Conference, Santa Barbara, Cal.**

**July 7-9—Pacific Northwest Plant Food Assn., 10th Annual Regional Fertilizer Conference, Tacoma, Wash.**

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### FIELD DAY SPEAKER

NEW HAVEN, CONN. — Richard Bradfield of Cornell University, agronomist, will speak at the annual field day of the Connecticut Agricultural Experiment Station Aug. 16. The field day is held at the Lockwood Experimental Farm of the station in Mt. Carmel. Dr. Bradfield will speak on "Scientific Research and the Agriculture of the Future."

## CALENDAR FOR 1958-59

**AUGUST**

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## SAUCHELLI

(Continued from page 3)

adding copper and zinc salts along with superphosphate the area would grow good pasture. About 2 million acres were treated and this plain is now divided into farms for sheep raising.

**A similar example occurred in Florida where at present an area of 15,000 acres of mineral soil in the Everglades, formerly abandoned because of the many failures to establish pasture and raise cattle on it, now flourishes thanks to the application of copper and cobalt elements to the soil together with the major elements. But it was the treatment with the trace elemens first which changed failure to success.**

A recent report from Connecticut shows that the occurrence of "better pit" or "spot" in the Baldwin apple grown in that state was due to a deficiency of calcium which resulted in an unbalanced condition between calcium, magnesium and potassium.

It has been suggested that trace elements are tools used by the plant's metabolic process with which to build proteins and carbohydrates.

They are an essential part of the enzyme patterns which catalyze the vital processes. Megnesium in chlorophyll; cobalt in the B12 enzyme of the rumen; iron in the blood corpuscles; calcium in the skeleton—these are a few of the host of examples that could be cited regarding the essentiality of these other than the major elements in vital functions.

Trace elements, it is plain to see, are far from being minor in importance. Fertilizer men should interest themselves in the functions of these essential components of living tissues. Selling fertilizers becomes a much more fascinating job as a consequence.

# Classified Ads

**Classified advertisements accepted until Tuesday each week for the issue of the following Monday.**

**Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Display advertising accepted for insertion at minimum rate of $11 per column inch.**

**All Want Ads cash with order.**

### MISCELLANEOUS

**BRUSH AND WEED KILLER**

KILL SUBMERSED water weeds which foul up motor propellers, tangle fishing gear and choke irrigation ditches with R-H Granular Weed Rhap. Inexpensive, easy to use, sure results. For details write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

KILL BRUSH at low cost with amazing R-H Brush Rhap. Will not injure grasses, grains, cattle, or other animals. See your dealer, or write Reasor-Hill Corporation, Box 36CL, Jacksonville, Ark.

### BUSINESS OPPORTUNITIES

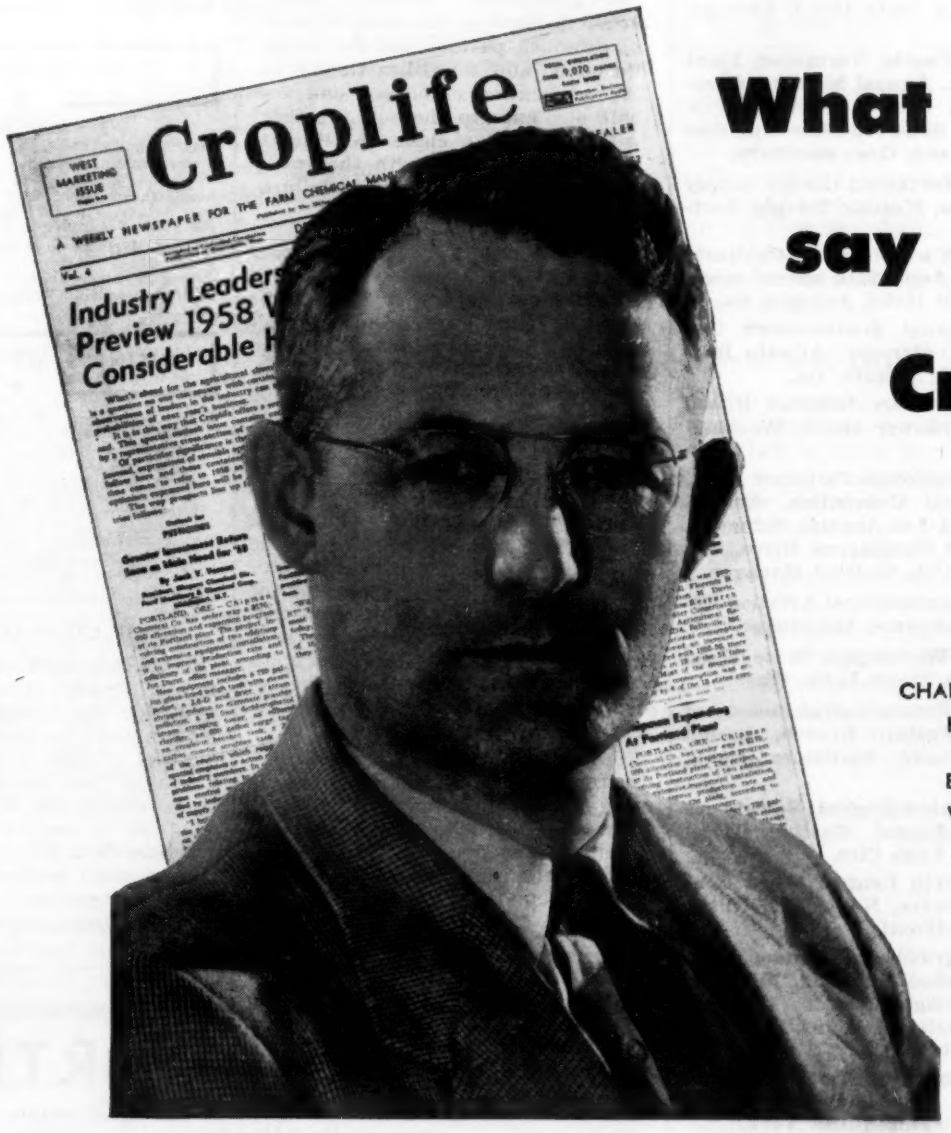
**FOR SALE — REMAINING SKELETON** steel structure and concrete work of our tornado destroyed fertilizer plant at Fargo, N. D. Excellent for construction of suitable warehouse. Plenty of room for industrial expansion on this railroad leased site. Survey this property and make us an offer. Address all correspondence to Ted B. Schultz, Asst. General Manager, Peavey Elevators, 309 Grain Exchange, Minneapolis 15, Minn.

### NEW COMPANY FORMED

KANSAS CITY, MO.—The formation of the Ohio River Chemical Company for the manufacture of caprolactam was announced recently by Industrial Rayon Corp. and Spencer Chemical Co. Caprolactam is used in the manufacture of nylon. The new company, it was stated, will construct and operate a 20 million pound caprolactam plant near Ashland, Ky. The initial cost of the facility is expected to be approximately $10,000,000.

# INDEX OF ADVERTISERS

**The index of advertisers is provided as a service to readers and advertisers. The publisher does not assume any liability for errors or omissions.**




# What readers say about Croplife

CHARLES L. HOVEY
Head of Agricultural Chemicals Research
Eastern States Farmers' Exchange
West Springfield, Mass.
A Farmers' Cooperative Purchasing Association

***"Croplife is regularly read by certain members of our staff. Because Croplife is a controlled circulation newspaper published weekly, it brings to us pertinent and timely information of a specialized nature. We have found no other publication which has so successfully accomplished this task."***

**Croplife**

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MUrray Hill 2-2185

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141 West Jackson
Chicago 4, Ill.
HArrison 7-0515

**SOUTHWESTERN STATES OFFICE**
Board of Trade Bldg.
Kansas City 5, Mo.
Victor 2-1350

**NORTHWESTERN STATES OFFICE**
P. O. Box 67
Minneapolis 40, Minn
FRanklin 4-5200